TRANSACTIONS

AMERICAN ACADEMY

of

OPHTHALMOLOGY

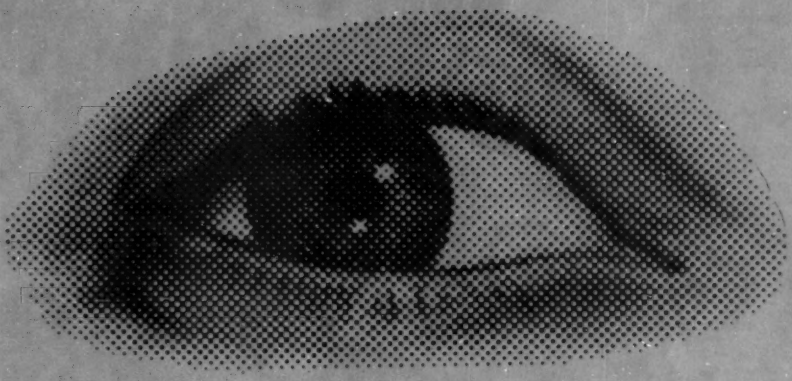
and

OTOLARYNGOLOGY

NOVEMBER - DECEMBER
1957

Volume 61 No. 6

ANNUAL MEETING, OCTOBER 12-17, 1958, CHICAGO



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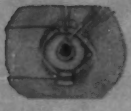

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TRANSACTIONS

American Academy of Ophthalmology and Otolaryngology

VOLUME 61 NOVEMBER-DECEMBER, 1957 NUMBER 6

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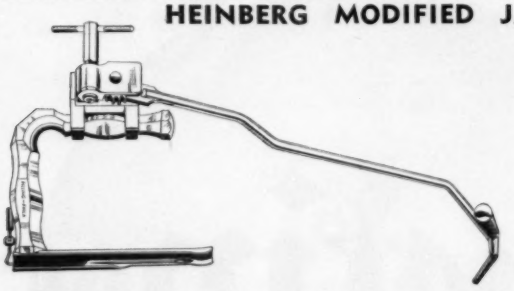

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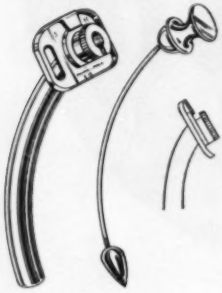

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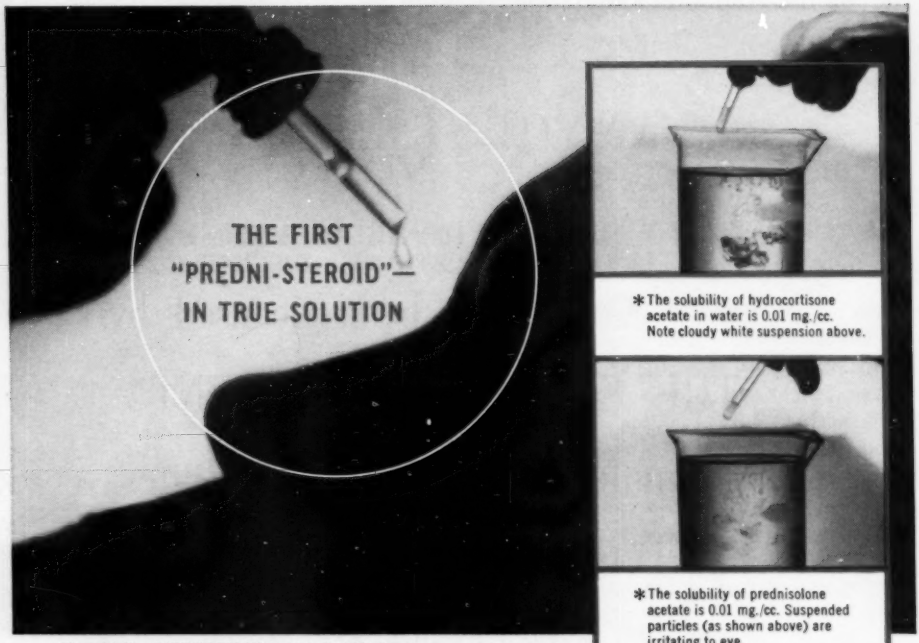

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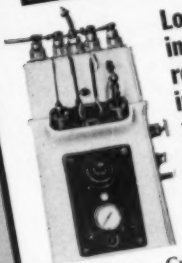

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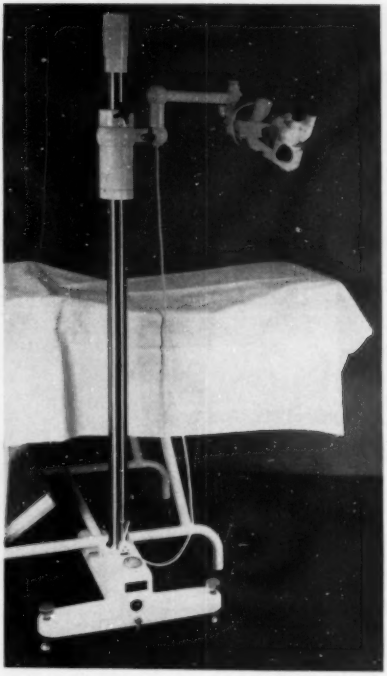

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1. Riddle, A.C., Jr.: Adrenosem Salicylate: A Systemic Hemostat, Oral Surg., Oral Med., Oral Path. 6:617 (June, 1953).

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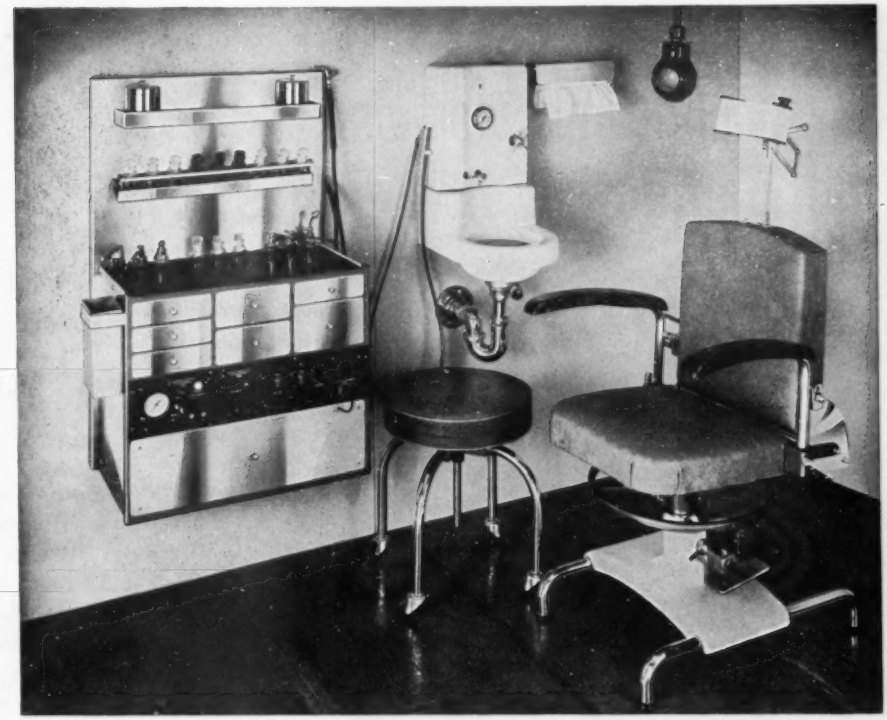

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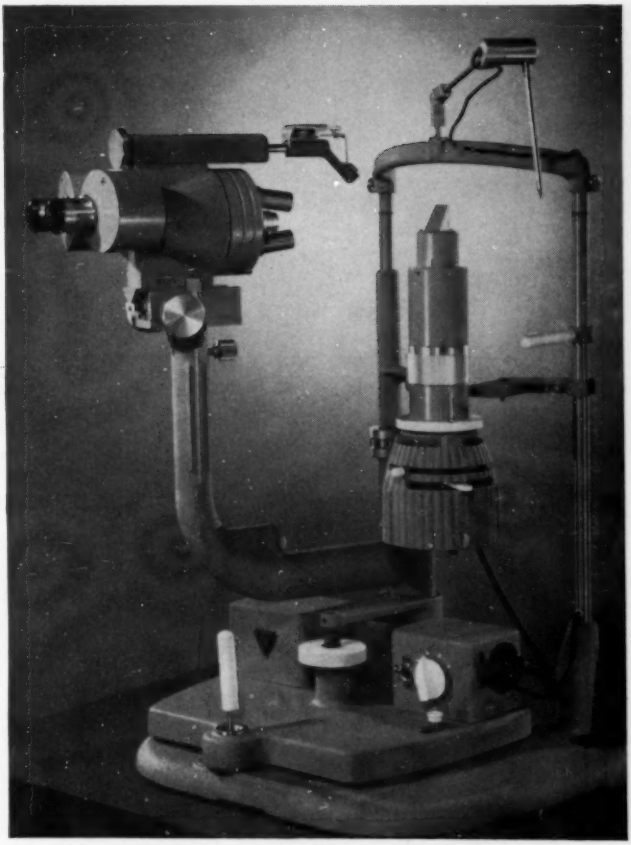

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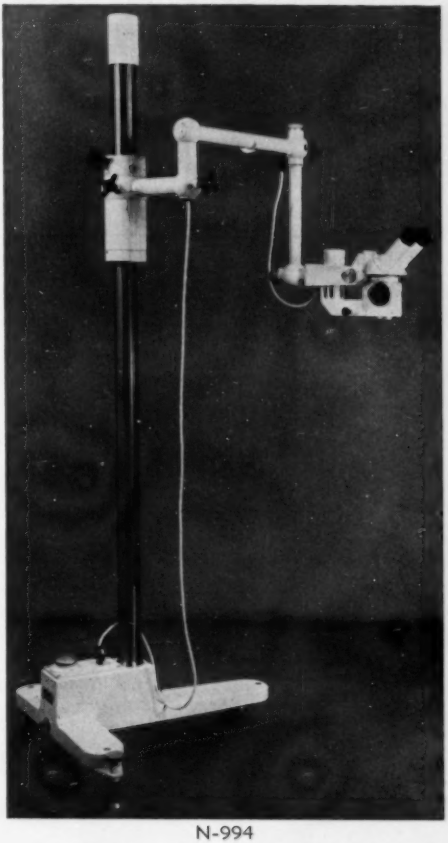

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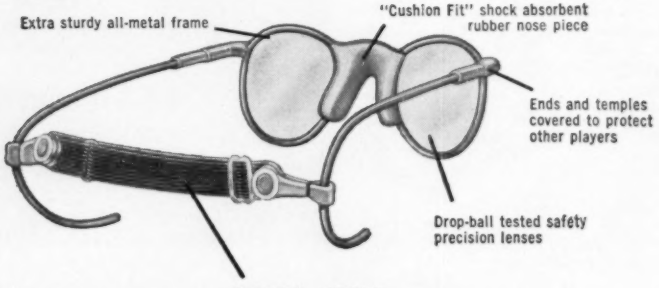
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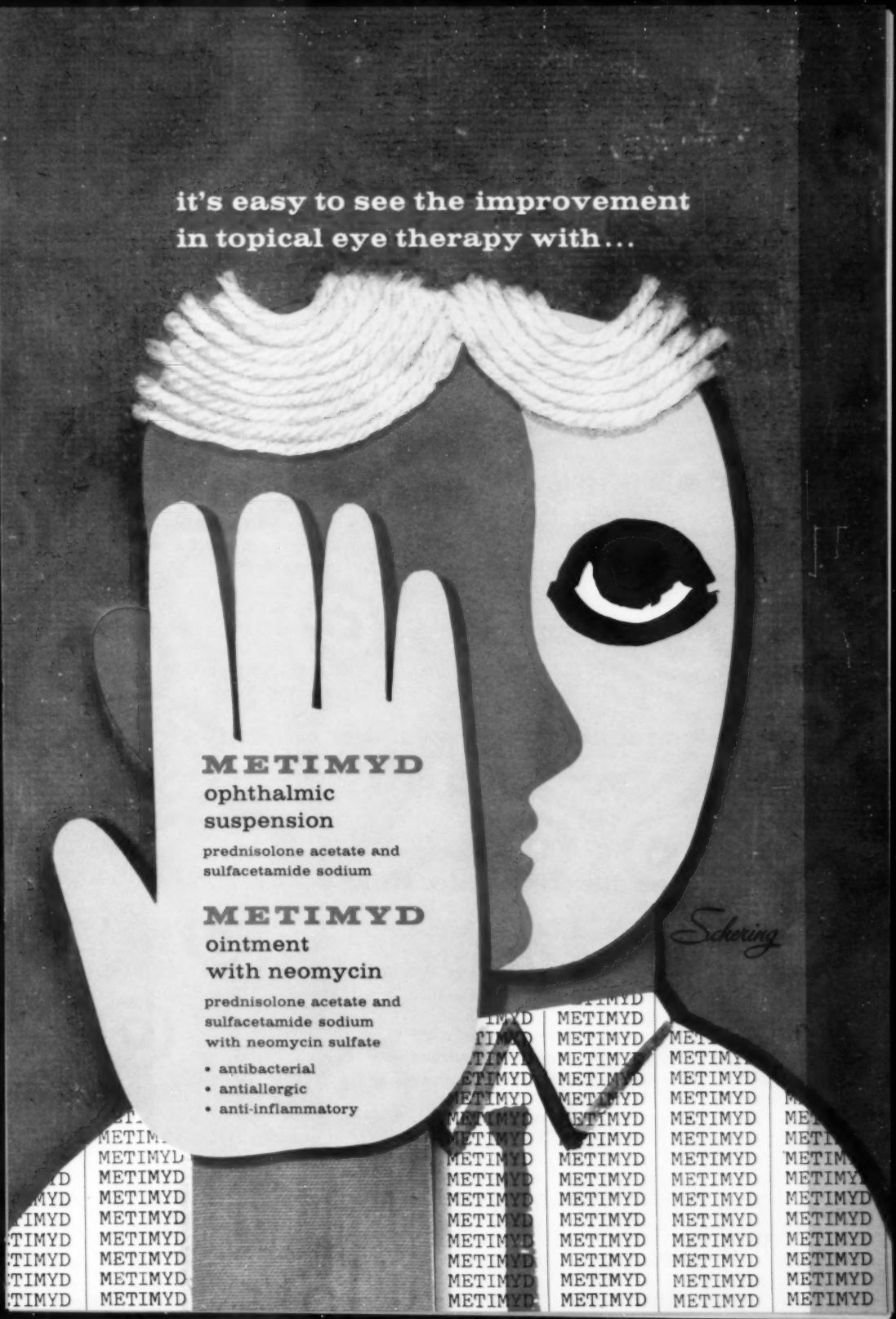

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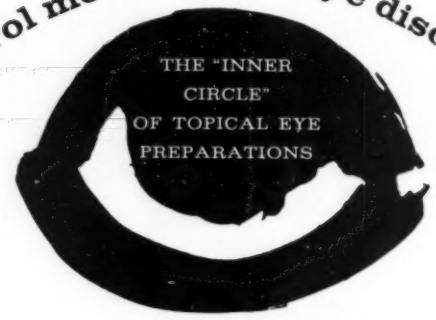

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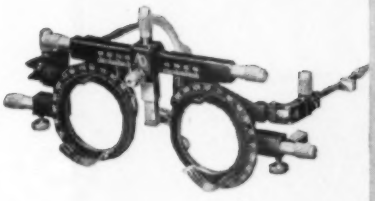

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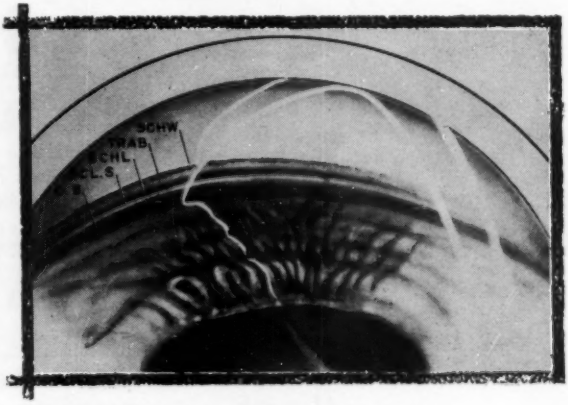

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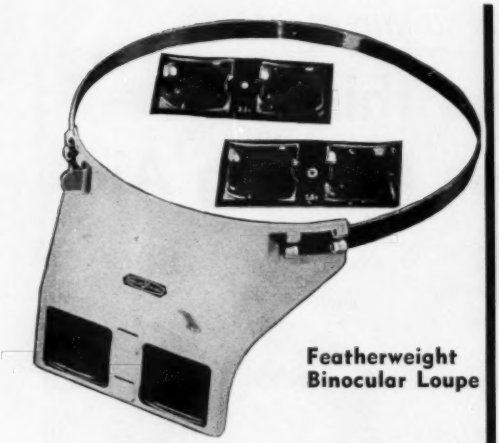

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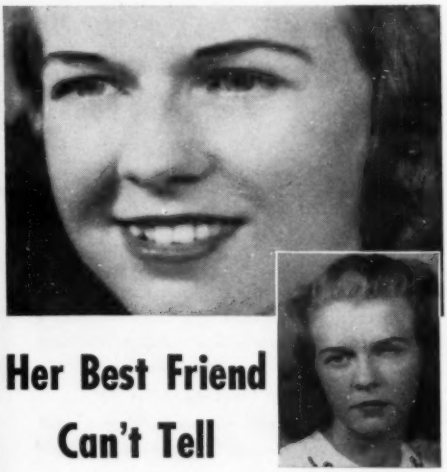

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1. *Cecil's Textbook of Medicine*, 7th ed., 1947, p. 1287.
2. *Ibid.*, p. 1598.
3. *Am. J. Ophth.* 42:771, 1956.
4. *Am. J. Digest. Dis.* 22:5, 1955.
5. *Med. Times* 84:741, 1956.

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Address of the President

LOOKING BACKWARD — AND FORWARD

ERLING W. HANSEN, M.D.
MINNEAPOLIS, MINNESOTA

AT the business meeting of this great organization a year ago, when it was announced that I had been elected president, I thanked you in sincere humility for the great honor which you bestowed upon me. Since that time, I have scanned the annually published list of past presidents and the wonderment has grown as to how I have come to be included in such distinguished company. May I again express my deep appreciation to you all for this great privilege and signal honor.

I became a member of this Academy in 1920, shortly after my return from service in World War I. For twenty-two of the thirty-seven years of my membership, I have had a minor part in the inner workings of this fine body. I thought it would be interesting and profitable to review some of its aims and accomplishments and, by this means, to stimulate our continued efforts for a useful and successful organization.

The purpose of the Academy, as set forth in the constitution, is as follows:

> The object of this Academy shall be to promote and advance the science and art of medicine appertaining to the eye, ear, nose, and throat; and to encourage the study of the relationship of these specialties to surgery, general medicine and hygiene.

We have consistently hewn to this line. From time to time there have been controversies of a political, economic, or socioeconomic nature in which the Academy was asked to participate. When it has not done so, there has sometimes been criticism and even some hard feeling has been engendered. The Academy has held strictly to its function of education and instruction. Personally, I hope it always will.

From its inception, the Academy has been a society of eye, ear, nose, and throat specialists. In 1920 there were 1335 members, the majority of whom, I feel sure, were doing combined work. As the membership has grown to approximately 6500, some members have suggested that we separate into two sections. They contend that most of the membership now does either ophthalmology or otolaryngology. The recent survey of our members had an amazingly high percentage of response. Of the 83 per cent of the members who returned the questionnaire, 47 per cent indicated that they confine their work to ophthalmology, 30 per cent confine their work to otolaryngology and 23 per cent work with the combined specialties. The latter represents roughly one-fourth of our members. If for no other reason, we should continue as a combined society. There are, however, other reasons. Most important, the matters of administration and conduct of the meetings would be immeasurably complicated.

We now have an administrative office at Rochester, Minnesota, ably presided over by our Executive Secretary-Treasurer, Dr. William L. Benedict. With his skillful management and that of his predecessors, the Academy has been able

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to accumulate substantial funds, not for the sake of accumulation, but for projects which have benefited the members and their patients. Several grants have been made for individual research problems in both ophthalmology and otolaryngology.

Early in the 1920's, the need for a clearing house for pathological material was keenly felt, and the Academy was in the forefront in arranging with the Army Medical Museum for this service. Each year an appropriation was made from our funds to help carry on this work. This has not only made possible the diagnostic work on pathological material forwarded to the laboratories, but many of you can testify to the value of slide sets which have been made available for study from this material.

Out of the fund of material which was accumulated through the years, an "Atlas of Ophthalmic Pathology," sponsored by the Academy, was issued in 1938. You are all aware of the monumental volume of "Ophthalmic Pathology" which later grew out of this work. Presently, there is some thought of revising this book. Later, there came the epochal films, first, the Embryology of the Eye, and more recently the Embryology of the Ear. We need not speak of the great cost of these projects, but would like to call attention to the fact that not enough teaching institutions have availed themselves of these valuable educational films and slides.

There was a time when the hard of hearing and the deafened were a much neglected group. Lay groups and some of the otologists have always shown some interest, but by and large, it was small. It seems to me that an accelerating interest in the problems of this group came about largely through the persistent and almost fanatical zeal of Dr. Horace Newhart, who headed a Committee for the Amelioration and Prevention of Deafness. Recently this work has been carried on by the Committee on the Conservation of Hearing. Academy funds have been appropriated for this Committee annually. The latest project sponsored by the Committee concerns noise in industry. When one sees the advancement in the field of otology—medically, educationally and industrially, we may well take a measure of pride in having had a part in its development.

For a number of years the Academy cooperated in a joint committee on Industrial Ophthalmology. Each year a special evening session was arranged by this Committee, and the discussions from this meeting were published in the TRANSACTIONS. Although the committee has been disbanded, the Academy still has a keen interest in this important phase of ophthalmology.

In 1929 it was decided to have a meeting of teachers in our fields for the discussion of problems of mutual interest in teaching. Several presidential addresses have dealt with this subject, from the standpoint both of undergraduate and of graduate teaching. While there has not always been the interest shown which this forum deserves, presently the meetings are well attended and very worth while. The Academy can continue to aid in improvement of teaching in our specialties. You do not have to have an academic appointment to attend these sessions and participate in the deliberations. Everyone is welcome and, indeed, urged to attend.

In 1944, the Home Study Courses were set up and have become one of the more valuable functions of this Academy. A new position on the Board of Secretaries was created for this section. Many of you can testify to the great aid this has been to you. This is true, not only for those who had no formal training, but also for those who have had the benefit of the best residencies. I would like to pay tribute to all those men who have so unselfishly aided in outlining

the work, preparing material and correcting the papers as they were submitted. We all owe you a real debt of gratitude, and we do thank you.

In 1920, Dr. Secord Large, who was treasurer and comptroller for many years, suggested that a Committee on Instruction be formed. This Committee began functioning the next year, when three days of instruction courses were given. From this grew the Section on Instruction, later divided into dual sections on Ophthalmology and Otolaryngology. This soon became, and continues to be, a feature of this Academy which is a major factor in making this organization the magnificent one it is, rather than just another medical society. The eagerness with which the members enroll for individual courses and the interest which is apparent in every classroom attest to the value of this unique departure. We must not forget to thank the men and women who have given unselfishly of their time, their efforts, and their knowledge to make all this possible.

We often hear it said that an organization is run by a clique. If such a feeling has ever been felt or expressed concerning our Academy, I am not aware of it. The business of the Academy is constitutionally invested in a Council whose duties are set forth in Section 2 of Article VI of the constitution:

> The Council shall have and control the management of the affairs and funds of the Academy, fix application fees and dues of Fellows, fix the date and place of the annual meeting, create and authorize the appointment of standing committees to conduct the affairs of the Council, have supervision of all activities and business affairs of the Academy and transact all business not otherwise provided for that may pertain to the Academy.

This Council consists of (1) the elected officers for a given year, (2) the three most recent presidents, (3) four elected Councillors, and (4) the Board of Secretaries.

If there is a clique, it's the Board of Secretaries — and what a clique it is. To my mind comes the line in *The Brook*, "Men may come and men may go, but I go on forever. . . ." Who runs the home office and keeps the wheels turning? Who arranges for the scientific programs? Who sets up the exhibit program? Who spends endless hours setting up instruction courses? Who is it that sets up and conducts the program of Home Study? Who looks after the technical details of the meetings? That's right, it is the secretaries. These are the men who, year after year, unselfishly give so that the rest of us may enjoy and learn. I have had the great privilege of being a member of this group, and since my part has been rather extracurricular, I feel no sense of self-laudation when I pay high tribute to these devoted men—our clique.

When I began to think about the things I might say, I felt that I would not mention names. But how does one talk about an organization without thinking about its personalities. Presidents and other officers are the "men" who "may come and go," while the secretaries may "go on forever." So I feel it is proper for me to name names.

From 1919 through 1926 Dr. Luther C. Peter was Secretary. Then a change was made in the Constitution, providing for a General Secretary, and a Secretary of the Section on Ophthalmology, a Secretary of the Section on Otolaryngology and a Secretary on Instruction. Dr. William P. Wherry was made General Secretary, Dr. William L. Benedict, Secretary for Ophthalmology, our beloved and saintly Dr. John L. Myers, Secretary for Otolaryngology, and Dr. Harry S. Gradle, Secretary for Instruction. It should be recorded that it was not long until the organization was known as Bill Wherry's Academy, as it has been more recently known as Bill Benedict's.

In 1930 the Section on Instruction

was divided and Dr. William Mullin became Secretary for Instruction in Otolaryngology. In 1935, Dr. Ralph Fenton was made Secretary of Miscellaneous Activities, a title which was changed the following year to Secretary for Public Relations. In that year we suffered a great loss in the death of capable, genial Dr. Mullin. His work was temporarily assumed by Dr. Fenton, and I became his assistant. Dr. Dean Lierle became Secretary for Instruction in Otolaryngology in 1937, and Dr. A. D. Ruedemann, Secretary for Instruction in Ophthalmology in 1938; the touchdown twins of instruction, who are still stars on the team. Since Dr. Myers withdrew in 1943 there have been five secretaries for Otolaryngology, Drs. O. E. Van Alyea, Lawrence R. Boies, James T. Maxwell, Howard P. House, and the incumbent Eugene L. Derlacki. In 1942, the Academy suffered another great loss when Dr. Wherry died. His place as Executive Secretary-Treasurer was taken by Dr. Benedict, who, as we have seen, was on the secretarial board from its beginning. His place as Secretary of Ophthalmology was filled by Dr. A. B. Reese, who served for eight years and was succeeded by Dr. Kenneth Roper, our immaculate secretary today.

If there were unlimited time, I would like to dwell on the tremendous part that Dr. Wherry and Dr. Benedict have played in the development of the Academy as it now stands. Countless others have meant a great deal to us. Through the period of years which we are reviewing, there is one person whose name runs like a thread through the whole pattern of the development and accomplishments of this organization. That person was Dr. Harry Searles Gradle, and we may well pause to remind ourselves what he has meant to the Academy, to ophthalmology, and to medicine as a whole. It was he who organized and set in motion our splendid program in pathology in cooperation with the Army Medical Museum. He was the first Secretary for Instruction. He was a president of this Academy in 1938. It was after this time that the idea for Home Study Courses was conceived, and again he became a secretary, developing this important phase of our work. "There were giants in the earth in those days." After Dr. Gradle was no longer able to carry on the Home Study work, Dr. Lawrence Boies was secretary. He was followed by Dr. Daniel Snydacker.

These are some of the activities of our Academy and some of the men who have by their unselfish devotion and unstinted labor made the Academy what it is. To all of those unmentioned members who have contributed mightily to its success, I apologize; those who have been officers, those who have contributed to the scientific sessions, those who have given instruction courses. We would need to publish a special directory to include all the names. To all of you, a "well-done."

Ours is a great organization. It can only remain so by the combined efforts of all its members. We cannot all be great executives; we cannot all be great teachers; we cannot all do original work; we cannot all be top clinicians. All of us have some ability. By pooling our resources and our energies, great things are accomplished and the Academy will go on to bigger and better things. Parenthetically, in this day of alphabetical designations, the last statement reminded me that B.B.A. was frequently seen at the close of letters passing between Dr. Wherry and Dr. Benedict. It did stand for a Bigger and Better Academy.

I have recounted things that you probably already know and appreciate. However, some of the younger men may not have been familiar with the organization and its work. You have made me very proud in giving me the privilege of serving you through the years and for the great honor of being your presiding officer at this meeting.

BILATERAL ANOMALIES OF THE OBLIQUE MUSCLES

ARTHUR JAMPOLSKY, M.D.
SAN FRANCISCO, CALIFORNIA

MANY authors have emphasized the fact that a vertical component associated with horizontal strabismus frequently goes unrecognized.[5,15,17,24] Significant vertical anomaly associated with horizontal strabismus lessens the prognosis for cure and is regarded by some as one of the main obstacles in effecting satisfactory results in operations for correction of strabismus.[4]

It is often difficult to establish cause and effect relationship of the horizontal and vertical component of strabismus. It is well known that correction of the horizontal component of a strabismus may sometimes aggravate, and sometimes ameliorate, a pre-existing vertical anomaly which may or may not have been recognized preoperatively. It is not as generally recognized that a vertical muscle anomaly may have a significant effect upon a horizontal deviation. It is an advantage to know more about vertical-horizontal interaction in prognosticating the effect of surgical operation upon this relationship.

The purposes of this study are (a) to point out the involvement of the oblique muscles secondary to an exodeviation; (b) to present examples of the effect of bilateral oblique anomalies upon the horizontal ocular deviation, relative to the clinical picture produced, and the effect upon this picture of bilateral vertical muscle surgery; and (c) to discuss the management of oblique muscle involvement in exodeviations, with its theoretical implications.

Division of Ophthalmology, Department of Surgery, Stanford University School of Medicine.

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UNILATERAL EFFECTS

A divergent position of the visual axis of one eye, relative to its fellow fixing eye, allows the development of overaction-contracture of *both* oblique muscles in the divergent eye.

The underaction of one extraocular muscle is usually associated with overaction of its direct antagonist. Overaction of both agonist and antagonist in the same eye during examination of its motility is not an expected or seemingly physiologic process, yet in the majority of patients with an exodeviation this phenomenon of the oblique muscles does occur (fig. 1).

An exodeviation, especially if constant and of large degree, allows shortening of both inferior and superior oblique muscles, which may result in a clinically demonstrable overaction of both muscles during ocular rotations (fig. 2). The overaction of the inferior and superior oblique muscles in an exotropic eye may be equal or unequal in degree.

OCULAR ROTATIONS

Overaction or underaction of vertical muscles is usually analyzed by observing the *vertical* noncomitancy during examination of the binocular rotations in the cardinal fields of gaze. This may be clinically satisfactory with respect to the inferior oblique but may not be always entirely satisfactory with respect to moderate overaction or underaction of the

FIG. 1—A patient with constant monocular exotropia, demonstrating overaction of both superior and inferior oblique muscles. Overaction of the superior oblique predominates.

superior oblique, unless the examination is carried out in very extreme fields of gaze.

The unilateral exotropic eye may be *elevated* in divergence if contracture of the inferior oblique predominates. The unilateral exotropic eye may be *depressed* in divergence if contracture of the superior oblique predominates. If the exotropia is constant, monocular, and of large degree, contracture of both obliques may restrict internal rotation by clinical motility tests, and by the forced duction test with forceps under anesthesia during surgical operation.

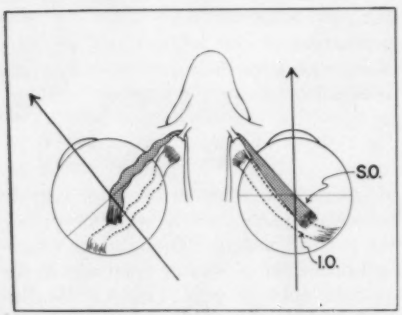

FIG. 2—A divergent position of the visual axis of one eye, relative to its fellow fixing eye, allows the development of overaction (and sometimes contracture) of both oblique muscles in the divergent eye. The divergent position may allow shortening and overaction of the obliques, which frequently occurs secondary to the exotropia.

An opportunity to evaluate the secondary motor anomalies consequent to the progressive increase in exotropia is afforded by a study of visually normal patients who may develop exotropia consequent to the onset of blurred vision in one eye as a result of trauma or inflammation. Since the exotropia develops consequent to the acquisition of grossly dissimilar retinal images during adult life, the stimulus is primarily sensory and one may study the secondary motor characteristics.

Fifty-four patients were selected who had developed an exotropia of 40 prism diopters or more consequent to the ac-

quisition of grossly poor vision in one eye during adult life. Seventy-two per cent of these patients demonstrated an overaction of one or both obliques. Examination of this selected group reveals that oblique overactions are found most commonly in constant exotropia of large degree. They are also frequent in the more commonly observed intermittent exotropia, and exotropia of moderate degrees.

In several of these patients, subjected to corrective cosmetic surgery for very large degrees of exotropia, the forced duction test revealed marked restriction to internal rotation of the globe with forceps, even after the medial and lateral recti were severed from the globe prior to recession-resection procedures. The ability to rotate the eye internally with forceps was greatly enhanced in these cases after severance of one or both obliques, as indicated by the preoperative findings. These findings demonstrate that overaction-contracture of the obliques may occur consequent to the exodeviation to such a degree as to limit manual internal rotation of the globe.

The existence of an observable anomaly does not necessarily dictate need for therapy. The moderate overaction of the obliques observed in intermittent exotropia, and in moderate degrees of constant exotropia, may entirely disappear with surgical correction of the horizontal strabismus, especially if a secure censory-motor fusional result is obtained. On the other hand, a significant imbalance of oblique overactions may be aggravated following unilateral horizontal surgical realignment of a monocular exotropia.

The recognition of the character of the commonly observed oblique overactions in exodeviations may obviate some of the complications which occur with the surgical management of monocular exotropia, whether the goal be functional or cosmetic. For instance, when a unilateral surgical procedure is chosen for correction of a monocular exotropia, the correction of significant imbalance of oblique overaction may be considered with a view toward (a) ameliorating an expected postoperative vertical anomaly, especially when a marked overaction of the inferior oblique exists preoperatively in association with an exodeviation, and (b) for aid in effecting better horizontal rotation and mobilization of the globe during surgical realignment of an irreparably amblyopic, unilateral exotropic eye.

Extreme caution should be exercised in establishing definite criteria as indications for tenotomy of the obliques. A tenotomy of the superior oblique is practically irreparable and the surgical indications for this procedure must be very definite, especially in a nonamblyopic eye.

BILATERAL EFFECTS

The overaction of one or both obliques in the divergent eye described for unilateral exodeviations may be found as a secondary bilateral anomaly consequent to an alternating exotropia. The overaction of the obliques may or may not be equal in an eye, or between the two eyes (fig. 3).

Approximately symmetrical bilateral superior oblique overactions, associated with an exodeviation, produce an interesting and characteristic clinical picture; an alteration in the amount of *horizontal* strabismus between the straight up and straight down positions of gaze. Examination of these positions may be diagnostically more informative than an examination of the vertical components in the other cardinal positions of gaze. This has been emphasized by many authors.[8,18,23]

Symmetrical bilateral superior oblique overaction may allow near orthophoria

FIG. 3—A patient with constant alternating exotropia, demonstrating overaction of all four oblique muscles.

FIG. 4—A child demonstrating bilateral overaction of the superior obliques. Note alteration of horizontal deviation in direct up (orthophoria) and direct down gaze (50△ exotropia). Comparison of these two positions of gaze may be more informative than comparison of down right and down left.

in the direct upfield of gaze, with a shift to as much as 80 prism diopters of exotropia in the direct downfield of gaze, without a significant vertical anomaly demonstrable in these fields of fixation (fig. 4).

Further evidence that the obliques are responsible for this overaction may be obtained through production of a similar reaction by bilateral inferior oblique tenotomy; by amelioration of the anomaly with bilateral superior oblique tenotomy; and by noticing the similarity in magnitude of effect upon the horizontal deviation observed with bilateral superior oblique palsy.

This phenomenon may be a late postoperative finding following a bilateral inferior oblique weakening procedure.[9] I have also observed it as a transient postoperative phenomenon of marked degree following bilateral inferior oblique tenotomy, with subsequent disappearance of the marked increase in exotropia in down gaze after postoperative recovery of the inferior oblique activity. In such cases the marked abduction effect of the relatively unopposed superior obliques in down gaze may be responsible for the shift to exotropia in direct midline down gaze.

Amelioration and cure of an increased exotropia in down gaze may be observed following bilateral superior oblique tenotomy. This procedure can diminish the exotropia in down gaze by an average of 45 prism diopters, with little effect upon the horizontal deviation in up gaze.

Marked alteration in the horizontal deviation, produced by bilateral anomalies of the superior obliques, may also be noted in patients with acquired bilateral superior oblique palsy. In this instance, there may be as much as 60 to 80 prism diopters of esotropia in down gaze, often with very little effect upon the horizontal deviation in up gaze (fig. 5).

FIG. 5—A patient demonstrating acquired bilateral palsy of the superior oblique. Note marked esotropia in direct down gaze, compared with orthophoria in direct up gaze.

The marked alteration in the horizontal deviation in down gaze with bilateral superior oblique anomalies is presumably due to the loss or enhancement of the abduction function in the lower fields of gaze.*

It is interesting to compare the effects upon the horizontal deviation of bilateral superior oblique tenotomy with those of bilateral inferior oblique tenotomy.† In my experience, bilateral tenotomy of the inferior oblique at the insertion (or 7 mm. recession) results in approximately 15 prism diopters decrease of the exodeviation in up gaze, with little effect on horizontal deviation in down gaze. On the other hand, complete bilateral tenotomy of the superior oblique tendon and sheath results in approximately 45 prism diopters decrease in exodeviation in down gaze, with little effect upon the horizontal deviation in up gaze (fig. 6). These procedures affect the vertical overaction of the inferior obliques more than the vertical overaction of the superior obliques.

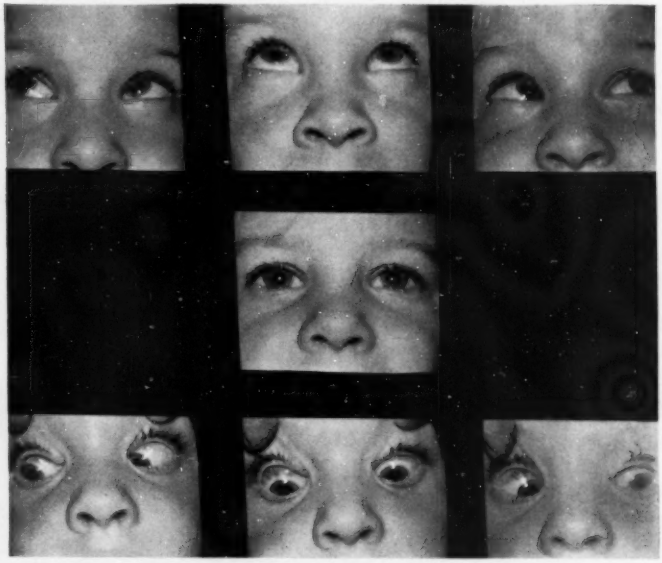

FIG. 6—Same child as in figure 4, following bilateral tenotomy of the superior obliques. Indications for this surgical procedure are infrequent and should be carefully assessed. Note effect upon horizontal deviation in direct down gaze, now equal to the unchanged orthophoria in direct up gaze.

It cannot be stressed too strongly that

*Equal bilateral strengthening and weakening procedures upon the superior and inferior obliques have been done to enhance or decrease their effect upon the horizontal deviation in both up gaze and down gaze. These results will be reported later. Attention is drawn in the present study to the exotropia in down gaze because of its relationship to exodeviations.

†These comparisons are obviously valid only insofar as the specific surgical techniques are concerned. Complete inferior oblique tenotomies have been performed at the inferior border of the lateral rectus without dissection of the muscular attachments. Superior oblique tenotomies of the tendon and sheath have been done at the nasal border of the superior rectus without dissection of the muscular attachments. Graduated surgical procedures are now being performed.

tenotomy of the superior oblique muscle in a seeing eye is an irreparable procedure and that its indications are rare. An erroneously indicated procedure in an adult patient may produce marked subjective symptoms.

Bilateral superior oblique tenotomy is to be considered only for children faced with potential loss of fusion in the primary position due to increasing exodeviation in the rare instances in which the following specific indications are present: Children demonstrating unmistakably good sensory-motor fusion with near orthophoria in direct up gaze, with progressive and increasing intermittent exotropia which is becoming more constant in the primary position of gaze, and with a constant exotropia in direct down gaze which is at least 45 prism diopters more exodeviation than in direct up gaze. A chin-down position may occur in order to gain fusion in the primary, or direct up, field of gaze. The presence of approximately equal, markedly overacting superior obliques in children with these specific indications may justify bilateral superior oblique tenotomy. The exodeviation in down gaze may be expected to diminish by 45 prism diopters, with little effect upon the horizontal deviation in direct up gaze as a result of complete tenotomies of the superior oblique tendon and sheath just nasal to the superior rectus muscle.*

*A bilateral superior oblique tenotomy performed in 11 children with specific indications effected a correction of an average of 45 prism diopters of exotropia in direct down gaze (range of correction from 35 prism diopters of 65 prism diopters) with less than 5 prism diopters of alteration in horizontal strabismus in direct up gaze. The maximum follow-up period is five years. In no instance was there resultant postoperative underaction of the superior oblique from this procedure, but all patients demonstrated marked overaction of the superior obliques preoperatively. Although six patients demonstrated a moderate hyperphoria in the primary position immediately postoperatively, only four patients demonstrated a vertical in the primary position of gaze after one year, and these were all of less than 4 prism diopters. Recently, bilateral "Z" partial tenotomy of the superior oblique has reduced the exodeviation in down gaze by an average of 25 prism diopters with, however, more frequent resultant hyperphoria in the primary position.

Children with these specific indications who have not been treated have gradually lost binocular vision in all fields of gaze because of the marked horizontal noncomitancy and constant exotropia in down gaze.

The main point to be noted is not the incidental, specific, and infrequently indicated bilateral superior oblique surgical procedure, but rather the effect that bilateral oblique anomalies have upon the horizontal deviation, and the effect upon the horizontal deviation of bilateral operation on the superior obliques when performed as the sole procedure in selected cases. It is interesting that the main effect of bilateral superior oblique tenotomy (in these selected cases) is clinically manifested by marked alteration in the horizontal deviation in direct down gaze.

OTHER CAUSES

The increase in exodeviation with down gaze is most commonly observed when associated with exotropia. Its pathogenesis often may be traced following the onset and the consequent increase of the exotropia with bilateral superior oblique overaction. However, this is not the sole cause of the phenomenon. Bilateral vertical recti anomalies have usually been held to be the cause of marked alterations of the horizontal deviation in direct up compared with direct down gaze, which may occur in association with either esodeviations or exodeviations.[2,3,10,18-21,23]

Urist,[18-21] in a detailed study, proposed a four-group classification of patients exhibiting alterations of the degree of horizontal deviation in up and in down gaze with both esodeviations and exodeviations. He believes that this phenomenon is due to secondary involvement of the vertical recti consequent to the horizontal deviation. Brown,[3] Irvine,[10] and others believe that an in-

creased exodeviation in down gaze is usually due to primary underaction of the inferior recti muscles with secondary deviations or contractions.

Some of the patients exhibiting this phenomenon undoubtedly show underaction of the inferior recti, even in monocular rotation, with marked overaction of the superior obliques. It is not always evident when the physician is treating primary or secondary involvement of vertical muscle anomalies associated with a horizontal strabismus.

Attempted bilateral surgical procedures on the vertical recti muscles, although enhancing the percentage of satisfactory results in the management of exodeviations, did not materially affect the alteration of horizontal deviation in up versus down gaze.[10,16] Bilateral operation on the vertical recti (as much as 6 mm. resection of the inferior rectus, often enhanced by 3 to 4 mm. recession of the opposing superior rectus) directed at ameliorating the horizontal noncomitancy, resulted in a maximum decrease of exodeviation in down gaze of only 18 prism diopters in my patients.

Surgery upon the horizontal muscle alone frequently ameliorates mild and moderate degrees of bilateral vertical anomalies. Urist[18-21] offers a plan of bilateral surgery on the horizontal recti in different combinations with bilateral vertical anomalies. Surgical alteration of the relative horizontal position of the visual axes certainly alters the action of the vertical muscles in both their vertical and horizontal components, and as may be expected, often significantly affects the shift in horizontal deviation in up versus down gaze. However, when the exodeviation in down gaze is more than 45 prism diopters, compared with near orthophoria in up gaze, with only a small degree of exodeviation in the primary position, an operation upon the horizontal recti alone is usually unsatisfactory because of the confining amount allowable for primary position alignment and because it does not significantly ameliorate the horizontal non-comitancy.

From a practical viewpoint, the clinical management of patients exhibiting marked differences in the horizontal deviation in up versus down gaze due to bilateral vertical anomalies, either primary or secondary, is in large part dictated by empirical surgical results: (a) Mild degrees of anomaly may be ignored, especially if a fusional result is not probable, since the lids cover the defect in down gaze. (b) Moderate degrees of alteration in the horizontal deviation in up versus down fields of gaze may be satisfactorily ameliorated by selecting appropriate bilateral surgical procedures upon the horizontal rectus muscles. (c) Marked degrees of this anomaly usually indicate a direct attack upon the bilateral vertical muscle anomaly, especially if it is associated with little horizontal deviation in the primary position, which limits the amount of possible correction upon the horizontal muscles alone. In the latter instance, since bilateral surgical procedures on the vertical recti do not materially affect the horizontal deviation shift, the physician may consider the bilateral superior oblique procedure when the specific indications mentioned previously are present. Those who have considered bilateral inferior recti weakness as the cause of the horizontal deviation shift have, upon occasion, advocated superior oblique tenotomy, singly or simultaneously.[1,2]

DISCUSSION

A comparison of the clinical effects of various bilateral vertical muscle surgical procedures upon the horizontal deviation with the theoretically derived notions of ocular motility is interesting.

Krewson's careful vector analysis[12]

of ocular motility revealed the relative percentage of muscular energy expended in the different horizontal positions of gaze. This study revealed that the obliques exert much influence upon external rotation of the globe when the eye is in a divergent position, and that the external rotation influence of the inferior and superior obliques differ in this position. This is in agreement with the findings of Fink,[6] who demonstrated the marked variability of the insertions and actions of the obliques. Krewson[14] stated that "the mechanical action of the obliques can hardly be expected to be similar and symmetric. . . ." The fact was emphasized that the internal and external rotation effects of the vertical muscles depend upon the relative positions of the visual axes.

The published report did not include the calculations necessary to analyze the horizontal component of the vertical muscles when the eyes were in up and down gaze. It would be interesting to know the theoretically derived expectations, in view of the marked difference between the effect upon the horizontal deviation in up and in down gaze obtained by operation on the superior oblique and that obtained by operation upon the inferior oblique in the selected cases of the present study.

Although the physician must be cautious with inferences derived from specific procedures in highly selected cases, it appears that the obliques may be responsible for alteration of the horizontal deviation in up versus down gaze, and that the abducting action of the superior obliques in down gaze may be significantly greater than the abducting action of the inferior obliques in up gaze.

Overaction-contracture of the oblique muscles in exodeviations leads to an interesting theoretical consideration, since this effectively increases the active force of the abducting group of muscles. Functional and anatomic changes in the obliques enhancing continued abduction tonus may account for part of the progressive nature of exotropia, once it is initiated by the sensory conflict of dissimilar retinal imagery, or by a previously established suppression mechanism. Such forces present in alternately fixating exotropes might be expected, according to Hering's Law, to result in increasingly large magnitudes of exotropia with progressive alteration of the tonic position, which is in agreement with clinical observations.

SUMMARY

1. Overaction-contracture of both the inferior and superior obliques may occur consequent to the onset and progress of an exodeviation.

2. Restriction of internal rotation may occur with marked oblique contractures associated with large and constant degrees of exotropia.

3. Approximately symmetrical bilateral superior oblique overactions associated with an exodeviation may produce the clinical picture of marked alteration (exodeviation) in the horizontal deviation in down gaze. Evidence is presented to support the concept of bilateral superior oblique overaction as the cause of the anomaly.

4. A comparison is made between bilateral operations on the inferior oblique and on the bilateral superior oblique with respect to the effect upon the alteration of the horizontal deviation.

5. The theoretical implications relative to the progressive nature of exodeviations are discussed.

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DISCUSSION

HERMANN M. BURIAN, M.D., Iowa City: Dr. Jampolsky has brought up for discussion a subject which is quite timely among ophthalmologists.

In essence, Dr. Jampolsky has pointed out that in exodeviations of an eye, especially in deviations of large degree, there tends to develop a contracture and overaction of both the oblique muscles. He has, furthermore, emphasized the role of the contracture of the oblique muscles in those instances in which one can observe a marked increase in the exodeviation in straight downward gaze. Dr. Jampolsky has reported tenotomies of both superior oblique muscles in such patients, which have resulted in a very satisfactory reduction of the exodeviation.

One must distinguish in Dr. Jampolsky's presentation—as, indeed, in any presentation—between the observed facts and their interpretation. I never quarrel with observed facts and do not question the observations which Dr. Jampolsky has made. But I do question

his interpretation. He believes that the slackening of the oblique muscles, occurring when the eyes are in an exoposition, favors contractures in these muscles and that these contractures also result in an increased abduction component in the action of the obliques. This, in turn, would cause the exodeviation to become greater. Against this view it must be pointed out that overactions of the oblique muscles are also frequently seen in esodeviations, anomalies in which Dr. Jampolsky's conjectures certainly do not apply. Also, the action of the oblique muscles as horizontal rotations is slight, and one wonders whether it is of clinical significance even in the presence of contractures or overactions of these muscles.

More important than these theoretical considerations are certain practical consequences resulting from Dr. Jampolsky's work. He very wisely cautions us against the use of bilateral tenotomies of the the superior oblique muscles without taking into account the strict indications which he has worked out. But I have misgivings about these tenotomies, even if the indications are followed to the letter. It is difficult to see how the tenotomies could be so performed as to give exactly the same effect in each eye; thus it is likely that hypertropias and incomitance may be created where there were none before. This danger would be particularly great if there existed at the same time contractures of the inferior obliques, which is the case according to Dr. Jampolsky, since they could hardly be expected to be absolutely symmetrical. Worse yet, cyclodeviations would be introduced which, as we all know, are a source of greatest difficulty to many patients. The torsional factor is not mentioned by Dr. Jampolsky and is, in general, too much neglected in the consideration of operations on the oblique muscles. I believe that our results would be greatly improved if that situation were remedied.

For all that, the facts observed by Dr. Jampolsky and others remain, and the syndrome which he has described needs elucidation as to origin and treatment. Careful, controlled clinical observations, including the determination of the torsional factor, and diagnostic studies aided by such laboratory methods as electromyography will have to be done before we may expect an answer to the problems presented to us today. We are grateful to Dr. Jampolsky for having raised them.

William E. Krewson, III, M.D., Philadelphia: Dr. Jampolsky asserts that in the majority of patients exhibiting exotropia with a vertical deviation, the cause is due to overaction or contraction of one or both oblique muscles, either monocular or binocular. I agree with him that this cause-and-effect relationship can and does exist, but it has not been my experience that it occurs in the majority of cases of exodeviation to the extent that he indicates, i.e., 72 per cent of 54 selected cases.

Monocular exodeviation increasing in downward gaze usually has been ascribed to inferior rectus weakness, and the customary handling of these cases has involved a strengthening procedure applied to the paretic inferior rectus. The essayist portrays an overaction of the superior oblique as a cause of the exodeviation; hence a weakening operation on the superior oblique is indicated. Although the operation is directed against the secondary or horizontal actions of these muscles, both the inferior rectus and the superior oblique are depressors of the same eye. One might say that the conventional school of thought embraces the strengthening of the former muscle, while the new school advocates the weakening of the latter. It is difficult at this time to reconcile these two diametrically opposite views. In binocular cases, however, I think the theory is developed on a much firmer premise. Bilateral superior oblique overaction is frequently encountered as an accompaniment of bilateral inferior rectus paresis, or a sequela to such a bilateral paresis, which pre-existed and from which the patient subsequently recovered.

In any event, Dr. Jampolsky's findings as to the amount of surgical correction obtained in exodeviations can be correlated with the theoretical actions of the oblique muscles. While both obliques have torsion as their primary function, relatively more of the superior oblique's energy goes into *abduction* than into depression, and more of the inferior oblique's energy is expended in elevation than in *abduction*. To put it another way, the superior oblique is a greater *abductor* than is the inferior oblique, and by vector analysis it has been shown that theoretically the difference is approximately 20 per cent. Dr. Jampolsky, in tenotomizing the superior obliques, obtained an average decrease of 45 prism diopters in exodeviation on down gaze, and in the case of the inferior oblique an average decrease of 15 prism diopters in exodeviation on up gaze, a difference of approximately 33 per cent between the two procedures. If allowance is made for check ligaments, fascial attachments, and other variable factors, the results theoretically anticipated and those actually obtained are in close agreement.

In closing, I would like to emphasize a generalization to which the essayist alluded in his introduction. Whenever combined vertical and horizontal deviations are encountered, regardless of the direction or amount of each component, and regardless of which is primary and which is secondary, a satisfactory and lasting correction cannot be obtained until the vertical defect is abolished.

DR. JAMPOLSKY: I wish to thank both Dr. Krewson and Dr. Burian for their informative discussions.

Dr. Burian raises some interesting questions. First, the cyclodeviation. We have done these procedures on adults and on children. The indications for tenotomy of the superior oblique are restricted to children because cyclodeviations are less important if the operation is performed at a time when the child can adapt to his new sensory interpretation of his visual field. An alteration in cyclodeviation may produce annoying symptoms in adults. This has not been a practical problem in our cases.

One of the probable reasons why significant vertical anomalies were not obtained as a final result in a high proportion of cases in the children who were subjected to this procedure may be that the great god *fusion* fortunately smooths over many of our surgical inadequacies. Preoperative sensory-motor fusion in up gaze or primary position, with a good fusion potential for other fields of gaze, is a definite prerequisite for the stated surgical intervention. In adults, vertical anomalies were a postoperative complication.

Alterations in horizontal deviations in up gaze versus down gaze also occur with esodeviations. The oblique muscle involvements in esodeviations, and their management, will be discussed in a subsequent report.

The reason that exodeviation in down gaze associated with exotropia was selected for discussion was because in this particular anomaly we were able to study the patients from the onset of their acquired exotropia in adult life and, therefore, be more certain as to the cause of primary and secondary conditions.

Dr. Krewson makes a point regarding bilateral weakness of the inferior rectus, which many believe is the cause of this anomaly. It is indeed a peculiar lesion which will result in a singled-out bilateral inferior rectus palsy, although such clinical anomalies do occur.

We acknowledge that weakening depressor muscles is certainly not a procedure to be desired if it can be avoided. However, in the specific indications given, only those patients who had marked overaction of the obliques were subjected to this bilateral procedure, and there has been no clinically observable weakness of the superior oblique in patients who have been studied for as long as five years.

I was very happy to see that these results agreed with the theoretical computations of Dr. Krewson.

It seems apparent that the obliques are responsible for this anomaly. One may *see* this anomaly of the obliques as overaction. One may sometimes *feel* it by the forced duction test. One may *cause* it by bilateral inferior oblique tenotomy. One may *cure* it by bilateral superior oblique tenotomy. And one may *compare* its features with observations of bilateral superior oblique palsy.

Undetected, this anomaly with marked exodeviation in down gaze may account for some of the recurrence of exotropia after surgical realignment, and it also may account for some of the cases of secondary divergence following an operation to correct esotropia.

TARSAL-PERIOSTEAL-FRONTALIS SUTURES FOR THE CORRECTION OF PALPEBRAL PTOSIS

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ONE of several basic surgical procedures for the correction of palpebral ptosis has been the suspension of the upper eyelid from the frontalis muscle. In 1948, Friedenwald and Guyton[2] described a modification of this principle by which the upper eyelid was anchored to the frontalis muscle by means of a single rhomboid-shaped suture. Their operation received rather widespread acceptance because of its brevity, simplicity, and applicability to infants. From their experience with 31 such operations they pointed out that the suture tended to slip so that the final position of the eyelid would be 2 mm. lower than its position at the time of operation. They also noted, in several cases, a tendency for late infection to occur around the suture tract, which nullified the result. In one of their cases a heavy blow over the eyebrow brought on a recurrence of the ptosis, probably because of a break in the suture.

Since the report of Friedenwald and Guyton a further modification has been described by Bettman.[1] In his operation, Bettman attempted to correct some of the deficiencies described. I, too, have been interested in modifying the original Friedenwald-Guyton technique in an attempt to improve the correction of ptosis. Of the surgical techniques for correction of ptosis, those which provide for suspending the eyelid from the frontalis muscle seem to be mastered more easily by graduate students in ophthalmology than are the surgical techniques of resection of the levator muscle and the attachment of the levator muscle of the eyelid to the superior rectus muscle of the eyeball. Thus for graduate students who expect to settle in areas where only an occasional case of ptosis is likely to be encountered, a good technique for suspending the eyelid is especially desirable. With this in mind I devised the following procedure.

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Presented, with a motion picture, at the Sixty-Second Annual Session of the American Academy of Ophthalmology and Otolaryngology, Oct. 13-18, 1957, Chicago.

TECHNIQUE

The operation which I now use is performed preferably with the patient under general anesthesia. Local infiltration anesthesia produces so much distortion of the thin tissue of the eyelid that landmarks are obscured and the weight of the injected fluid makes it difficult to raise the eyelid the required amount.

Three stab incisions, each 5 mm. in length, are made with the small Bard-Parker knife through the skin of the upper eyelid. One incision is made in the nasal, one in the middle, and one in the lateral third of the eyelid. Each incision is made parallel to the upper margin of the tarsal plate in order to correspond to the usual position of the superior palpebral fold. With tiny strabismus hooks the fibers of the underlying orbicularis oculi and the levator muscles are teased apart to expose the anterior face of the tarsal plate just inferior to its upper border. If there is any bleeding at this point in the dissection, it can be stopped by compression directly over the inci-

sion. It is desirable to stop even slight bleeding in order to prevent ecchymosis of the soft tissues. Ecchymosis not only is a nuisance in further manipulation of the eyelid but also prevents full correction of the ptosis.

Three stab incisions are then made with a heavier Bard-Parker blade through skin and subcutaneous tissues just above the eyebrow and located respective to its nasal, middle, and lateral thirds. Each incision is about 10 mm. long, and the incision is extended down to the surface of the frontalis muscle. Bleeding is likely to be sharp on completion of these incisions, but its absolute control by compression is not as important as with the incisions previously made in the eyelid.

Three 4-0 sutures of standard length (either white silk or cotton) on a half circle, 7/16-inch, eye needle (no. 3) with taper point are readied for insertion into the anterior face of the tarsal plate through each of the incisions in the eyelid. By making several loops with each suture into the substance of the tarsal plate, a firm attachment is assured. The needle must pass into the tarsal plate rather than through the fascial and muscle attachments on its surface. The more pliable tissues should not be used as they will stretch and the full correction of the ptosis will not be maintained because of slippage of the sutures.

The free ends of these sutures are next threaded on 3/8-inch curved triangular cutting needles (no. 12). In paths as near as possible to the plane of the orbital septum the needles are introduced through the incisions in the eyelids and are pushed superiorly. By careful palpation with the forefinger of the unengaged hand along the superior margin of the orbit, the points of the needles can be directed through the junction of the orbital septum with the periosteum of the frontal bone. The needles are then directed superiorly to emerge through the stab incisions above the eyebrow.

The proper manipulation of the needle to obtain an adequate bite of the fascia along the superior rim of the orbit is the most important step in the operation. In teaching the operation to graduate students, I have noticed that the novice tends to allow the needle to slide upward, anterior to the fascial attachments to the bone. When this has occurred, traction on the point of the needle as it emerges through the incision above the eyebrow will show that the needle shaft can be rocked to and fro in the soft tissues without movement being transmitted to the bones of the head. When the needle is correctly positioned, to-and-fro traction on the needle will produce a corresponding movement of the head.

After the three mattress sutures are brought through the stab incisions above the eyebrow, the free ends of each suture are threaded on a fresh 5/8-inch plastic needle with 3/8-inch curve and looped through the tendon of the frontalis muscle to give supplementary support to the attachment along the superior rim of the orbit. Before the mattress sutures are tied, the eyelid is elevated and the margin of the eyelid is adjusted to the desired arch in relation to the eyeball by traction on the individual threads. As the eyelid is elevated, the superior palpebral fold will appear along a curved arc corresponding to the initial stab incisions in the eyelid.

The incisions in the eyebrow are closed with interrupted sutures of silk, but it is not necessary to suture the incisions in the eyelid. I have not found it necessary to cover the eye in the initial postoperative period by a Frost suture in the lower eyelid. A bland ophthalmic ointment is applied to the eyeball, and the operative site and eye are covered by

a perforated metal eye shield. The shield prevents the rubbing of the suture lines against the pillow. The perforations in the shield allow inspection of the eye and eyelid and permit limited use of the eye for visual purposes. This is particularly desirable in bilateral operations on children, for the perforations in the metal shield permit immediate identification of the parents by the patient and forestall crying. Crying would result in contraction of the orbicularis oculi muscle with subsequent traction on the newly inserted sutures. Neither the eye nor the operative site is disturbed in any manner except to remove the protective shield after a period of several days.

Small daily doses of an orally administered antibiotic are advisable to discourage infection in the wound. The silk sutures in the skin above the eyebrow are removed on the seventh day. In children the removal of the sutures is usually done under the influence of a sedative.

DISCUSSION

The technique described has been performed on 13 eyelids of 12 patients ranging in age from 2 to 56 years. In addition, 12 eyelids of 9 patients were corrected by a surgical procedure similar to the one just described except that two instead of three sutures were used to support the eyelid. In this procedure two instead of three incisions were made in the tissues of the eyelid and the eyebrow. The two incisions in the eyelid were placed at the junction of the nasal and middle, and lateral and middle thirds. With the two-suture technique, slight drooping of the lateral third of the eyelid was noted often after the sutures were tied. The three-suture modification has eliminated this undesirable droop, has seemed to provide better overall support to the soft tissues of the eyelid, and has permitted a more refined adjustment of the arch of the eyelid.

Although white silk and cotton sutures are considered as belonging to the nonabsorbable group of suture materials, I have not had any difficulty with subsequent extrusion of the suture during the postoperative period. However, if suture materials of a diameter larger than 4-0 were to be used, I think extrusion during the postoperative period might occur. Suture materials of large diameter are not well tolerated by the thin tissues of the eyelid. Here again, the technique employing three sutures offers an additional advantage in that the weight of the eyelid can be distributed between three mattress sutures utilizing threads of small diameter as compared to a single suture requiring a thread of large diameter (2-0 and larger) such as is employed in the Friedenwald-Guyton technique.

It was not deemed necessary to suture the skin incisions in the eyelids; first, because they were small and, secondly, the incision lines disappear beneath, and become a part of, the superior palpebral fold when the eyelid is raised to its final position.

When the operation is demonstrated to other surgeons, the question often raised is whether overcorrection may be produced by pulling the sutures too taut. So long as the sutures are passed correctly through the fascial attachments along the superior rim of the orbit, overcorrection seems impossible. The reason is that the space between the upper margin of the tarsal plate and the superior rim of the orbit becomes filled with the folds of the soft tissues as the sutures are tightened. A point is reached at which the folds created in the soft tissues by the elevation of the eyelid prevent further tightening of the sutures. To date, in my experience, this "end point" is usually reached when the margin of the eyelid is elevated to its desired position, and I have had no difficulties with overcorrection.

However, in those procedures which bypass the superior orbital rim and anchor the sutures directly to the frontalis muscle, overcorrection by drawing the sutures too taut is possible because the direction of lift is almost straight upward and also somewhat forward, particularly in persons with prominent brows. In such cases, I have seen the undersurface of the eyelid actually lifted away from its contact with the globe by reason of the forward as well as the vertical displacement of the eyelid. In the modification that I have described, the axis of pull is posterior as well as vertical and more nearly follows the natural line of pull of the levator muscle (fig. 1).

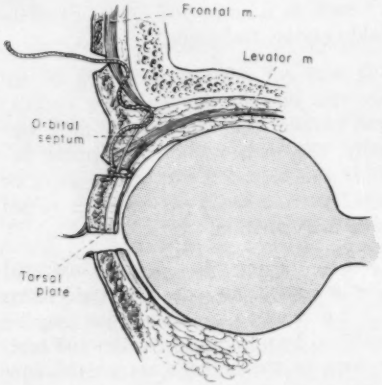

FIG. 1 — The pathway of the suture through the tissues of the eyelid, orbital rim, and forehead.

In several patients whose ptosis was corrected by the Friedenwald-Guyton technique, the initial anchorage of the suture was placed in the levator muscle just above or anterior to the tarsal plate. Subsequent drooping of the eyelid in some of these patients made me think that the suture had slipped in the substance of the levator muscle. For this reason I chose the tarsal plate as the initial anchorage for the sutures in my modification of the operation, and in my experience slippage of suture tracts has been much less in this tissue than in the levator muscle.

While working with some of the initial patients of this series, I was concerned that the elevation of the eyelid by this method would prevent adequate closure of the eyelids. Theoretically it would seem that suspending the eyelid from a fixed point (the junction of the orbital septum with the superior margin of the orbit) would prevent the proper coverage of the eye during sleep. However, in none of the patients have I observed undue exposure of the cornea as the result of inadequate closure of the eyelids during sleep, and only one has had any indication of keratitis. In this particular case herpes keratitis occurred soon after the operation, but it spontaneously subsided without corneal scar after two weeks. Whether the onset of the herpes keratitis was related to the sudden withdrawal of the protective covering of the ptosed eyelid or was a natural sequel of general anesthesia could not be determined.

In practically all cases, however, there was exposure of the sclera along the inferior portion of the globe during sleep. Such a degree of exposure is frequently noted after other procedures utilizing the lid-suspension principle have been employed for correction, and this amount of exposure did not result in any harm to the eye.

In several of the initial cases of this series adequate coverage of the eyeball in the immediate postoperative period was assured by the insertion of a Frost suture into the lower eyelid. Subsequent experience proved that such protective measures were unnecessary and the Frost suture was abandoned. The application of a bland ointment to the surface of the eye and the coverage of the eye and eyelids with a perforated metal shield seem to offer sufficient protection.

A particular advantage of this operation from the clinical as well as the teaching standpoint is its applicability to most all types of ptosis. I have utilized the operation in all age groups and in ptosis of all degrees of severity. The operation has been employed as a second procedure in cases in which the usual levator resection has given an unsuccessful result. In my experience, the operation was unsuitable for only one type of ptosis, bilateral blepharophimosis associated with epicanthus. After the epicanthus was corrected, an attempt was made to correct the ptosis by this procedure but the result was disappointing. Some type of levator resection seems to be more suitable in this situation.

SUMMARY

A modification of the lid-suspension principle for the correction of palpebral ptosis has been described by which the eyelid is elevated by attaching a series of sutures to the tarsal plate, the fascial attachments along the superior rim of the orbit, and the frontalis muscle. Three mattress sutures are used rather than two or one suture because this technique permits a more refined adjustment of the arch of the eyelid, the weight of the tissues of the eyelid is more evenly distributed at the suture points, and thread of smaller diameter can be utilized, thus forestalling extrusion of the suture. The attachment of the sutures to the fascia along the superior rim of the orbit and to the frontalis muscle permits a suspension of the eyelid from two anchor points instead of the single anchorage to the frontalis muscle in the usual operations employing this principle.

The basic technique of this modification has been employed in 25 eyelids of 21 patients. In none of the patients has there been any overcorrection, and all have retained the ability to close the eyelids. This operation has been employed for all types of ptosis and in all age groups of patients. It was found to be unsuitable for the correction of ptosis associated with blepharophimosis and epicanthus.

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Symposium: Deafness in Children — Knowledge and Practice

EVALUATION OF HEARING IN PRESCHOOL CHILDREN

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IN any discussion of the establishment of the hearing status in preschool children, certain facts have to be remembered. In the first place, when the clinician attempts to measure hearing efficiency in a child under 2 years of age, he must accept the fact that he is dealing with a patient who, under normal circumstances, has very little ability to communicate and whose speech, at best, must be limited to a vocabulary of a few words. The children in this early group, the preverbal group, have had very little time to develop patterns which later will be useful in establishing whether or not they have any response to sounds. As a result of these problems, testing must be of a nature that does not call for any cooperation or any communication on the child's part.

Several very helpful techniques for evaluation of hearing in infants or in children in the preverbal group have evolved through the years. The Ewings in England have worked with infants for some time and have recently described a very successful method for screening infants in well-baby clinics by the use of what could best be termed environmental audiometry. They have established the sounds in an environment in which a baby lives, such as those made in preparing the bottle, in making a cup of tea (in America I suppose it would be coffee), in preparing the bath, in the soft humming of a tune, all of which will reflect themselves in the child's actions if he hears them. The Ewings emphasize the fact that many loud sounds will cause no response in a normal child, whereas the more subtle sounds in their tests will give much information. The Moro reflex is a time-honored test, but it does not give the same information as environmental testing. However, it still can be used to advantage. More precise testing can be undertaken by the use of electrodermal responses to quantitatively evaluated sounds. The galvanic skin resistance test has been successfully carried out in children as early as one week after birth. At this period, little attempt has been made to establish a threshold for hearing. The object has been merely to establish response to sound. It would appear, from more recent experiments, that the DC potential changes on the skin may, with the development of the proper equipment, be more exact than those of the skin resistance technique. Both of these methods depend on a type of conditioned reflex to be effective. Both of them have the disadvantage of testing the peripheral hearing rather than the entire hearing circuit. Electroencephalography was experimented with for years; among the first to publish some interesting records were Gibbs and Marcus. Its recent employment by Derbyshire and his group in Detroit has shown great possibilities for establishing the hearing

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pattern in very young children. One difficulty encountered is the confusion of extraneous bursts of waves in some children's records. Finally, in the preverbal group, calibrated toys and noise makers can be used successfully.

When the age of speech has been reached, the child has developed patterns which may be very important to the clinician in evaluating the child's case. He can be placed in an environment where monitored sound can be delivered to him. Here, speech-hearing testing with object identification is extremely useful. Play audiometry, best typified by the peep show, can be used with great success and accuracy in children above the age of two and one-half. Calibrated toys and noise makers will give much information in this group too.

As the child approaches school age, pure tone audiometry can be begun and speech hearing testing with simple word lists becomes accurate and easy. Discrimination tests can be made when warranted at this point.

There are, it seems, many tests available to the clinicians to evaluate hearing of children from infancy until school age. Many of these tests will be studied and re-evaluated as our national survey gets under way. Special attention will be paid to those tests that give promise of screening large groups of infants and young children, and new tests will be developed when indicated.

In closing, it would seem only right to emphasize several elements other than electronic devices, carefully metered voices, and calibrated toys, which must be taken into consideration. These are the human elements. A careful history from the mother is sometimes worth many tests. The human voice, if used carefully with a good observer — and mothers can easily be taught to observe well, will elicit much information which will aid in the establishment of hearing loss. The tuning fork, almost the oldest of scientific instruments in our specialty, in the hands of a careful clinician can be of use from infancy to old age. It should always be employed in any hearing problem.

Finally, the clinician should remember that when dealing with one of these children, he cannot always assume that he is dealing with a deaf child simply because the child doesn't hear or doesn't speak. There are three types of inhibition to hearing: (1) damage to the peripheral end organ and nerve, which precludes transmission of sound from the outside to the brain centers; (2) central damage, which precludes the establishment of significance to sound and which causes many children who seem to hear in infancy to stop listening by the age of one year; (3) aphasia, in which sound cannot be imitated for communication and so it is rejected as useless. To decide between these three types of inhibition to hearing observe whether the child has a readiness to listen, whether he has an apparent readiness to talk, and whether he has communicative awareness. Those who do not have such readiness or awareness may fall into the group which will be discussed by Dr. Hollie McHugh.

Symposium: Deafness in Children — Knowledge and Practice

PROBLEMS OF TESTING AND MANAGING CHILDREN WITH COMMUNICATION DIFFICULTIES

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MADAME Trenque of Lyons, France, stated in a report to the International Congress on Audiology in St. Louis, May 1957 (as translated, in absentia, by Dr. Ira Hirsh) that there are two kinds of hearing problems in children, the easy ones and the difficult ones.

In general, children with peripheral hearing losses are relatively easy to test and evaluate by any one or more of the methods just described by Dr. Bordley. They are consistent in their responses, or lack of responses, to sound stimuli. The children with communication difficulties or language disorders, on the other hand, provide very complex diagnostic problems.

Our present knowledge of how a sound stimulus is received, analyzed, transmitted, perceived, integrated and synthesized into speech, thought production, emotional response or appropriate motor activity is very incomplete. We need to know more about ways of assessing the integrity of the entire communication system. It is certain, however, that damage or dysfunction in this central system is not to be evaluated or expressed in terms of a decibel loss, but rather by an interpretation of the total effect upon the child's perceptual, emotional, intellectual and motor behavior. We must not be preoccupied with the ear itself, or confine our interests entirely to the peripheral auditory mechanism. We must apply the knowledge gained from the continuing studies in psychology, neuroanatomy and neurophysiology to our clinical examinations and observations of these particular children.

There are four major groups of children who, because of their failure to develop normal speech at the appropriate time, are suspected of having impaired hearing, namely, the deaf or hard of hearing, the brain injured (including those with aphasia), the mentally retarded, and the autistic or emotionally disturbed.

Approximately 50 per cent of the children who have failed to acquire speech by the age of two and a half years are reported to have a significant peripheral hearing loss; the remaining 50 per cent have some central dysfunction as the basic cause of their handicap.[4]

Before discussing the methods of testing those children with central nervous system disturbances, we should briefly review our present knowledge of the neural mechanisms of audition. The auditory pathways lead from the cochlea to the auditory cortex. More detailed study shows the ascending pathways starting with the ventral and dorsal cochlear nuclei in the medulla oblongata. Some of the fibers ascend immediately and some cross over or decussate in the

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trapezoid body to the superior olivary nucleus. Because of the connections between the superior olivary nucleus and the abducens or sixth nerve nucleus, the acoustic reflex arc with eye turning to seek the source of sound probably occurs at this level. This reflex response has been observed in a three-week-old baby.

originates in the cortex, descends in the brain with terminations or relays in each of the nuclei of the ascending pathway, and ends in the cochlea itself. Although complete details of the function of this descending system are lacking, Galambos[2,3] has shown by his very ingenious animal experiments that the lower segment of this system, the olivocochlear bundle (of

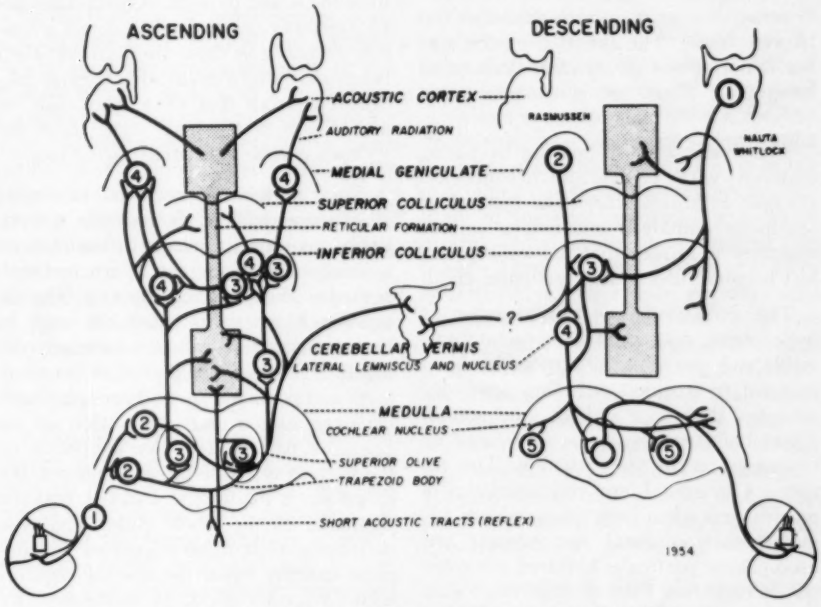

FIG. 1—The ascending and descending auditory tracts. (Galambos[3])

Impulses ascend from the superior olivary nucleus to the auditory cortex with relay stations in the nucleus of the lateral lemniscus, inferior colliculus and medial geniculate body and then through the auditory radiations to the cortex.

In addition to the classical concept of the ascending route, a recently discovered alternate exists by way of the reticular formation (fig. 1). A pathway to the cerebellar vermis has also been described, though its function is unknown. A very important descending system of neurons Rasmussen) terminates at or near the internal hair cells in the cochlea. When stimulated, the impulses from the cochlea are inhibited or suppressed. This probably represents the neurologic mechanism of listening, by means of which one can focus attention upon some sounds while totally disregarding others. Attention to sounds apparently produces (in experimental animals) more activity in a larger number of brain locations than does inattention. Disturbances in this mechanism may explain some of the

auditory perceptual difficulties seen in children with minimal, but diffuse, brain injury.

In considering the auditory cortex and the localized areas that are known to be important centers for the receptive and expressive phases of speech, Brodal[1] cautioned that the cortex appears to function as a whole and not alone, but always with some sort of interrelation with lower structures, primarily the thalamus and hypothalamus. The function of the cortex is not one of localization alone or of integration alone but is a combination of both.

The evaluation of hearing in young children with central disturbances is fraught with difficulties. The method or technique employed requires a certain elasticity to ensure that the appropriate test be presented to the particular child.

The child with an injured brain is hyperactive, distractible, emotionally unstable and, paradoxically, more likely to respond to a quiet, soft, low intensity stimulus than to a sudden loud sound. These children have to be *structured* or organized in the test situation. The responses to sound are characteristically inconsistent when pure tones or even familiar environmental test sounds are used. These particular children are difficult to condition for psychogalvanic skin resistance (PGSR) testing, presumably because of their very unstable autonomic nervous system. A hearing loss is often not suspected until the child is over 2 years old and does not speak. This is in contrast to the deaf child whose consistent lack of response to sound may be recognized with certainty as early as the third month after birth. A diagnosis of aphasia cannot be made until the child has reached the age at which speech usually occurs, and by that time his behavior pattern will show other subtle evidences of brain injury, particularly in his visual and auditory perceptual functions.

The responses of the mentally retarded child will be in keeping with the mental age attained rather than with his chronological age. The diagnosis of retardation will be made on the basis of his psychometric evaluation.

The withdrawn, autistic, emotionally disturbed child may not respond to auditory stimuli, unless he is allowed to produce the sound himself. A certain amount of ingenuity is required to detect a definite response in these children, but their behavior pattern is so characteristically different from that of a deaf child or a brain-injured child, that their responses can be interpreted accordingly.

Great patience is required in testing all of these children. It may take a number of tests over a period of time before a definite conclusion can be reached with regard to their hearing capacity. The diagnosis, however, is based not only on their hearing tests but on a carefully detailed report of all pertinent prenatal, birth and postnatal facts, thorough physical examination and observation of the behavior pattern for characteristics of the various types described. In short, the diagnosis is made on a careful, realistic appraisal of the whole child. The type of management to be suggested will depend entirely upon the special requirements of each child, as established by this over-all investigation.

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Symposium: Deafness in Children — Knowledge and Practice

OTOSURGICAL DEVELOPMENTS AND THE HARD OF HEARING CHILD

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IN the problem of pediatric deafness, any discussion of medical and surgical aspects must perforce apply only to the hard of hearing child with a conductive hypacusis. It is true that a profoundly deaf child may have a conductive component in addition to his basic neural hypacusis; in that respect only, this discussion would apply to that type of patient as well. In general, however, there are regretfully no significant medical or surgical therapeutic aspects in any type of nerve deafness at the present time. Any contemporary medical discussion of the nerve deaf child is limited to etiologic factors only.

Accordingly, this presentation will be limited to the conductive hypacuses of children. Before the various types of conductive lesions are discussed, it should be mentioned that there is recent evidence, particularly advanced by Everberg,[1] that some cochlear lesions which appear to be congenital are really acquired as the sequelae of transfenestral invasions of viral or bacterial middle ear infections. In his recent publication, he gave novel re-emphasis to a concept entertained several decades ago. This concept merits serious study.

With chemotherapy and antibiotics producing a sharp drop in the complications of otitis media, a rather widespread belief in the disappearance of chronic otitis media spread through the medical profession. The virtual cessation of the need for surgical intervention in acute mastoiditis and the almost wholesale abolition of the time-honored operation of myringotomy seemed to strengthen this belief. These changes in therapy were widespread not only in the general medical and pediatric professions, but in the otologic profession as well. For a time it appeared that the only conductive lesions that would come to our attention in the future would be those due to trauma or to congenital anomalies. Recent events, however, have completely changed the picture, and we find today a new increase in the incidence of chronic otitis media.

The rising case load of tympanic effusion, both in pediatric and in adult practice, has surprised most physicians. This increase has been noted throughout the world, and many theories are being advanced in an attempt to explain it. Undoubtedly, the antibiotics have played a major role in this phenomenon. Whether we are dealing with a changed host milieu or whether there is a marked change in bacterial biology is not clear. At any rate, pediatricians and otologists see larger numbers of children with chronic tympanic effusions. Unfortunately, in many such children who come to physicians with this presenting prob-

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lem, the diagnosis is very frequently missed. It is missed because of the lack of classical otoscopic findings and inadequate audiologic studies of such children.

The most important development in the surgical management of the conductive hypacuses of children is the increased application of reconstructive endotympanic surgery. This primarily includes the two procedures of exploratory tympanotomy and tympanoplasty. Tympanoplasty is really a misnomer, since it does not describe one specific operation. It should be described as a surgical approach to physiologic reconstruction of the tympanum.

Most conductive hypacuses of childhood are surgically remediable. This is a rather startling statement in view of the pessimism in this field a few years ago. However, the refinement of the endotympanic techniques to be described has made it possible to solve most middle ear problems. It is only the rare case of conductive hypacusis that now defies our surgical attempts. The important pediatric conductive lesions may be classified in six categories: (1) congenital anomalies of the external and/or middle ear; (2) chronic otitis media with effusion; (3) persistent tympanic perforations; (4) chronic suppurative otitis media with ossicular necrosis; (5) cholesteatoma; and (6) juvenile otosclerosis.

CONGENITAL ANOMALIES OF THE EXTERNAL AND/OR MIDDLE EAR

Congenital defects of the external and/or middle ears are not uncommon in pediatric otologic practice. They occur in a number of anatomic varieties and may be attributed to several groups of genetic factors. In this discussion, we are not particularly interested in the cosmetic problem of aplasia of the auricle. We are interested here in the many varieties of lesions involving the cartilaginous and body external canals, the tympanic membrane, the ossicular chain and the fenestral regions of the medial tympanic wall.

Prior to a few years ago, there was no real interest in surgical reconstruction of such lesions other than in cosmetic aspects. Otologists became interested in the hearing aspects following the development of the Lempert fenestration operation. The recent advances in reconstructive tympanoplastic surgery have spurred even greater interest in this problem.

Combined External and Middle Ear Anomalies

The basic attack upon congenital aplasia of the external and middle ear follows the concept of exploratory mastoidectomy and exploratory tympanotomy. Endaural approach to the temporal bone is followed by an exploration of the mastoid based upon roentgen guidance and identification of certain fixed surgical landmarks, including the root of the zygoma and the middle and posterior fossa dural plates. The identification of the mastoid antrum does not usually present an insurmountable problem, but its dissection requires great care.

Following this surgical approach, several rather definite types of anomalies will be encountered. In most cases there is no true canal nor is there evidence of any functioning tympanic membrane. A thick, bony tympanic plate usually forms the lateral boundary of the deformed tympanic cavity. Most cases share this finding in common. However, the following varieties of ossicular abnormalities will be encountered:

Normal mobile ossicular chain. Cases with normal mobile ossicular chains may be encountered in which there is relatively normal formation of all three ossicles and no evidence of discontinuity or fixation anywhere in the chain. In such cases, upon proper creation of a new

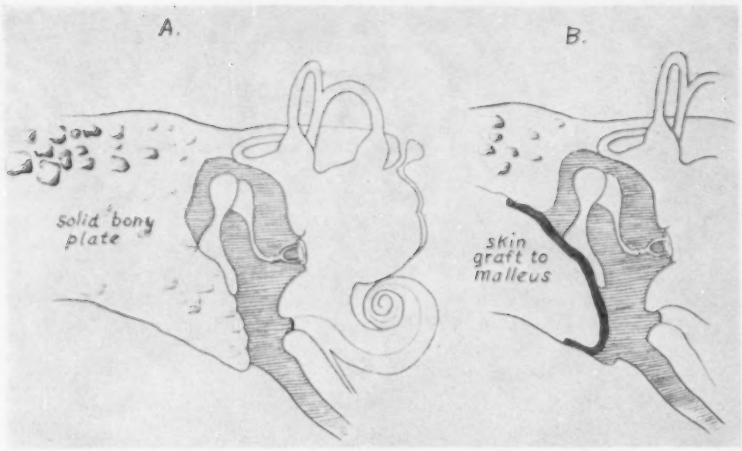

FIG. 1—(A) Tympanic bony plate with mobile ossicular chain. (B) Skin graft to malleus.

pseudo bony canal through the mastoid cavity and tympanic plate, a skin graft can be placed in direct contact with the denuded head, neck, and manubrium of the malleus, so that in effect the skin graft becomes a new tympanic membrane to transmit acoustic energy through the ossicular chain to the vestibule (fig. 1).

Fused malleus, but mobile incus and stapes. In this instance there is evidence of fusion of the malleus with the tympanic plate (fig. 2). The incus, however, is mobile and the stapes is mobile. A skin graft placed in contact with the denuded incus following removal of the malleus remnant produces in effect a myringoincudopexy with transmission

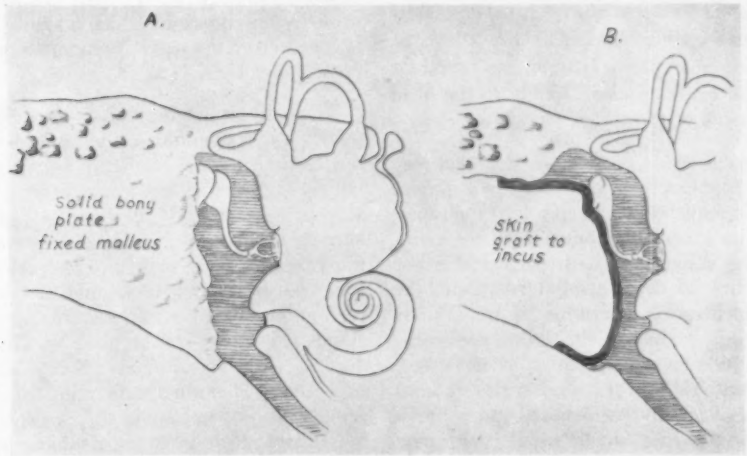

FIG. 2—(A) Tympanic bony plate with fixed malleus. (B) Skin graft to incus.

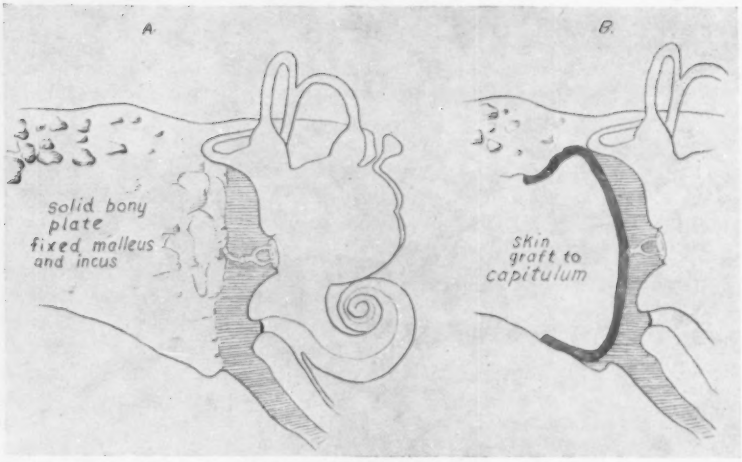

FIG. 3—(A) Tympanic bony plate with fixed malleus and incus. (B) Skin graft to capitulum.

of acoustic vibrations from the new tympanic membrane through incus and stapes to the vestibule.

Fused incus and malleus, mobile stapes. In this next variety, there is fusion of the malleus and incus into one immobile mass, usually attached either completely or partially to the tympanic plate. The stapes, however, is completely formed and mobile. The procedure of choice is a columellization operation or a skin graft applied directly to the head and neck of the stapes (fig. 3).

Fused incus, malleus, and crura, mobile footplate. Where there is evidence of a completely fixed and deformed malleus and incus, combined with the crura of the stapes but with preservation of mobility of the stapedial footplate, the columellization operation is impossible. Instead, the phase shift or acoustic insulation type of operation is indicated. In this, a rather thick skin graft is placed in contact with the denuded promontory to form a new small middle ear (new hypotympanum) in which there is acoustic transmission directly to the mobile footplate and acoustic insulation for the round window (fig. 4).

Complete ossicular and footplate immobilization. Where there is complete distortion and fusion of all ossicular elements with no mobility in the stapedial footplate, the only surgical procedure possible is fenestration of the horizontal semicircular canal, in which a skin graft is used for the new pseudotympanomeatal membrane (fig. 5).

Thus, by following basic physiologic principles, congenital lesions of the external and middle ear can be treated with a high percentage of successful results. As is true in all tympanoplastic surgery, the problems of skin grafting must be faced and carefully understood. Such surgical procedures may not succeed in one stage but may require several stages. If more conservative measures do not show functional efficacy postoperatively, the final utilization of the fenestration procedure is still possible in most cases. Only in cases in which there is true deformity of the round window

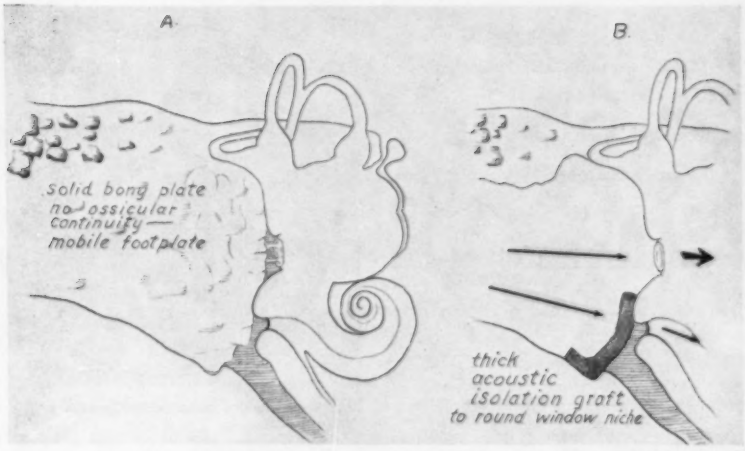

FIG. 4—(A) Tympanic bony plate with fixed deformed malleus, incus, and crura and mobile footplate. (B) Skin graft to round window niche.

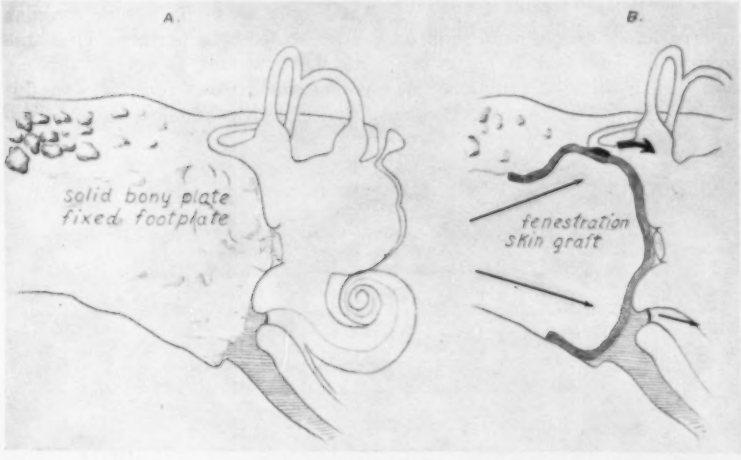

FIG. 5—(A) Tympanic bony plate with fixed footplate. (B) Skin graft fenestration of the horizontal canal.

itself with inadequate round window function must fenestration be dropped from ultimate consideration. This is a rare circumstance in congenital lesions.

Middle Ear Anomalies

Anomalies limited to the middle ear with normal external ear and normal tympanic membrane are more common than hitherto suspected. Exploration of the middle ear under the dissecting microscope in planned stapes mobilizations for presumptive otosclerosis has uncovered many such cases. While exposures during fenestration operations have pre-

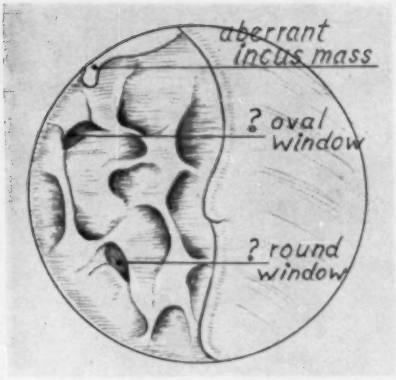

FIG. 6—No recognizable tympanic structures.

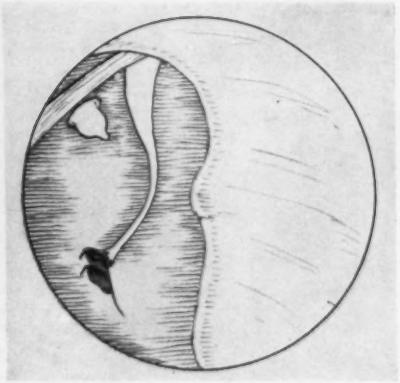

FIG. 7—Elongated nonarticulated incus and a solid abnormal stapes.

viously revealed some cases, the extent of middle ear survey in exploratory tympanotomy is more favorable for detailed study of ossicular and fenestral details.

Many varieties of tympanic malformation may be described. A lesion may have no clearly defined tympanic elements (fig. 6). The incus may be elongated and nonarticulated and the stapes solid and abnormal (fig. 7). Figure 8, A illustrates an incudal hypoplasia and only a slight fragile "columella" represented by a posterior crus attached to the posterior aspect of a fixed but otherwise normal footplate. In this instance, it was possible to mobilize this

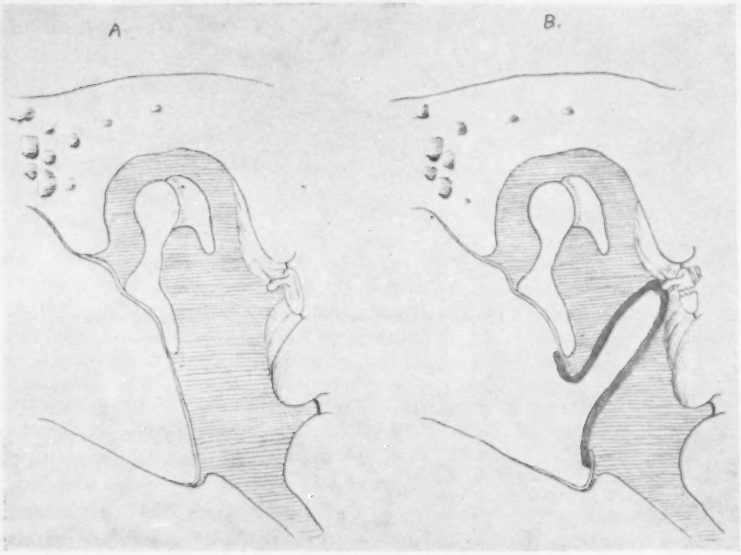

FIG. 8 (A) Incudal hypoplasia and fragile posterior crus. (B) Skin graft to mobilized "columella."

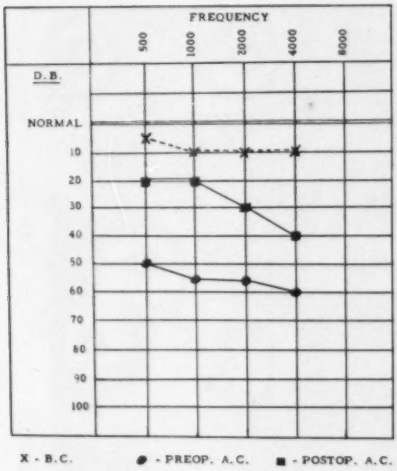

FIG. 9—Audiometric gain following columellization.

fragment and attached "columella" and place a split thickness graft in contact with it (fig. 8, B). A marked gain in hearing was recorded by surgical audiometry (fig. 9). This conductive problem is frequently misdiagnosed as otosclerosis. It is possible that most of these lesions will be remediable by combinations of tympanoplastic techniques.

CHRONIC OTITIS MEDIA WITH EFFUSION

This otologic problem is by far the most common one of childhood and is definitely on the increase. This disease, characterized by much variability and confusion in otoscopic and audiometric findings, is a real challenge to the entire medical profession. Diagnosis is no problem when a shifting meniscus line or air bubbles can be seen in the middle ear. Unfortunately, most cases present neither of these otoscopic findings. Audiometric findings are also confusing in that they may fluctuate not only from day to day but also from hour to hour. In addition, audiologic confusion may occur because of the effect of the viscosity of the tympanic effusion on fenestral function (fig. 10). In such cases, a

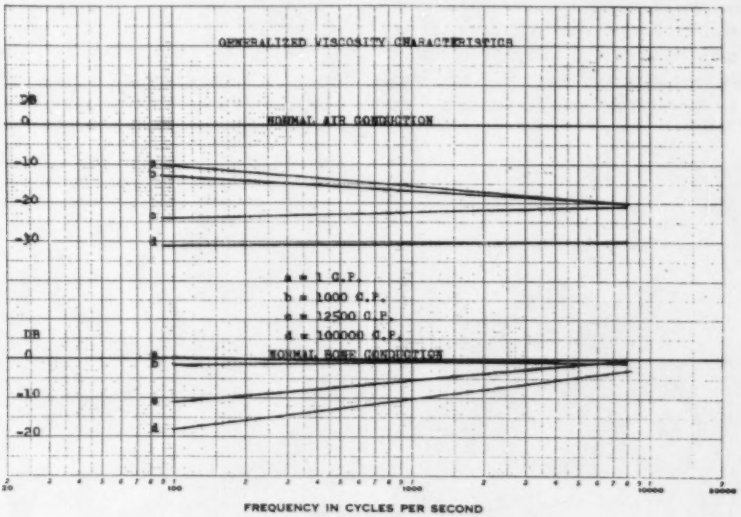

FIG. 10—Graph showing threshold losses for both bone conduction and air conduction when highly viscous fluid filled middle ear. Experimental study on cats with objective audiometry using cochlear potentials.

false nerve deafness may be diagnosed audiologically because of a drop in bone conduction. Such a drop in bone conduction may be a reversible conductive phenomenon and disappear following the removal of the effusion.[2]

Much has been written on etiology, pathogenesis, and treatment of this disease. It must be emphasized, however, that no treatment is satisfactory that does not quickly and thoroughly remove the tympanic fluid. All other modalities which are applied to the eustachian tube, the nasal and paranasal mucosae, and the underlying cytologic problems are to no avail if fluid is allowed to remain in the middle ear. This is not to deny the great importance of attention to allergy, to lymphoid tissue, and to chronic infection in the associated nasal, nasopharyngeal and sinus regions. Adequate removal of the fluid, however, is the first principle in the proper treatment of this disease and must be accomplished promptly and repeated as often as necessary to ensure an air-filled middle ear, without which restitution of normal mucosa is almost impossible. Diagnostic aspirations (fig. 11) may be followed in many cases by double myringotomy (fig. 12) and suction to the myringotomy openings (fig.

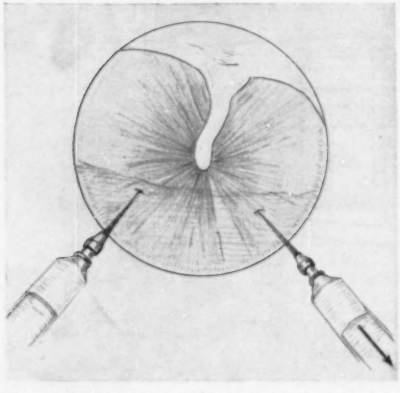

FIG. 11—Diagnostic aspiration of each inferior quadrant.

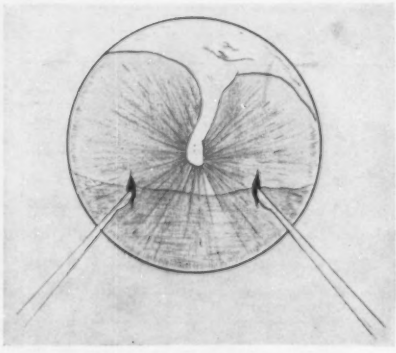

FIG. 12—Double myringotomy.

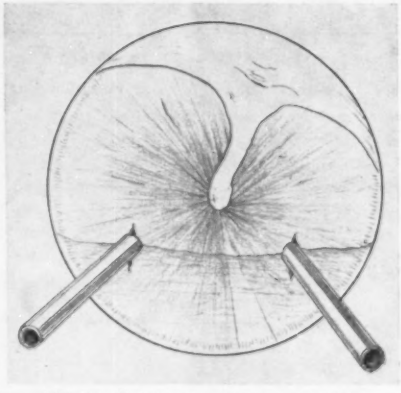

FIG. 13—Suction to myringotomy incisions.

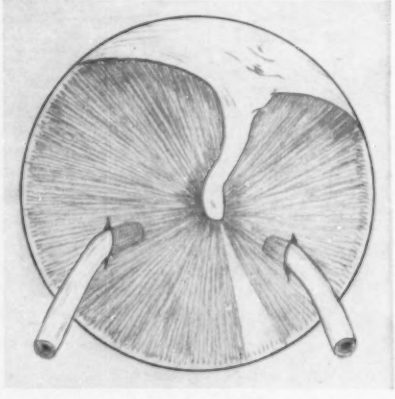

FIG. 14—Polyethylene tube installations.

FIG. 15—X-ray evidence of serous mastoiditis.

13). If the surgeon encounters fluid of high viscosity it is usually advisable to insert small polyethylene tubes immediately for purposes of aeration and drainage (fig. 14). The recognition of concomitant serous mastoiditis (fig. 15) which may act as a reservoir may call, in selected instances, for an exploratory mastoidectomy by the endaural route followed by rather prolonged ventilation of the mastoid area through the use of a large polyethylene tube remaining in the endaural incision (fig. 16).

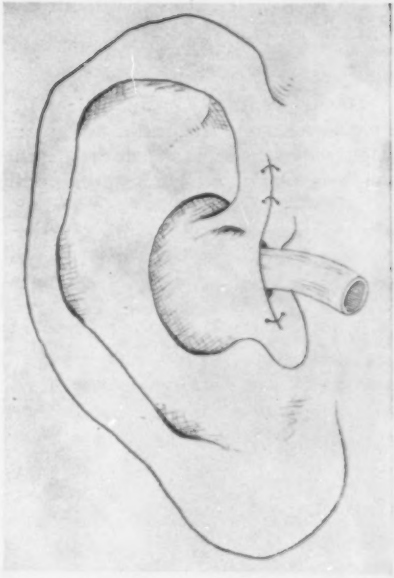

FIG. 16—Prolonged polyethylene endaural drainage.

It cannot be emphasized too strongly that vigorous attention must be given to this problem and that time is of the essence. Prolonged presence of tympanic fluid ultimately leads to fibrous fixation of the ossicular chain. This is accompanied frequently by necrosis of the lenticular process of the incus (fig. 17), a critical region in the ossicular chain. The lenticular process will necrose easily because of circulatory deficits brought about by chronic infection and fibrosis. The ensuing separation of the incus from the stapedial capitulum produces an immediate permanent disruption of

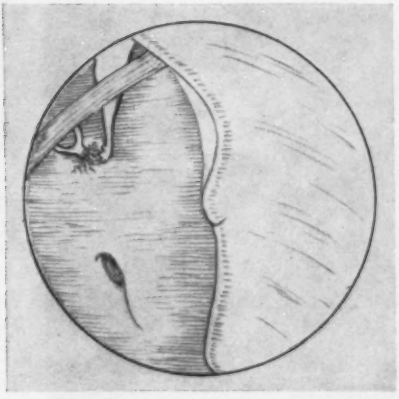

FIG. 17—Necrosis of lenticular process of incus.

the ossicular chain and creates a serious reconstructive problem involving major tympanoplastic surgery. It is important, therefore, not to look benignly upon this fluid problem and not to allow it to remain for any significant duration.

PERSISTENT TYMPANIC PERFORATIONS

The dry central tympanic perforation may be seen as a frequent cause of conductive hypacusis. It usually represents the end stage of a previous otitis media

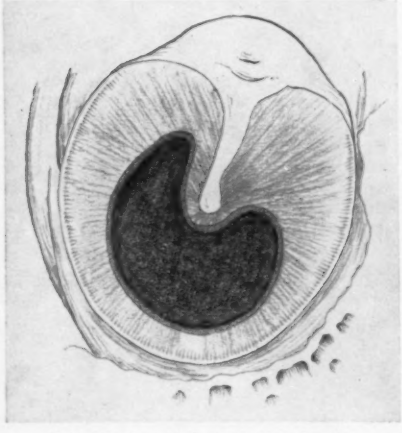

FIG. 18—Central dry kidney perforation.

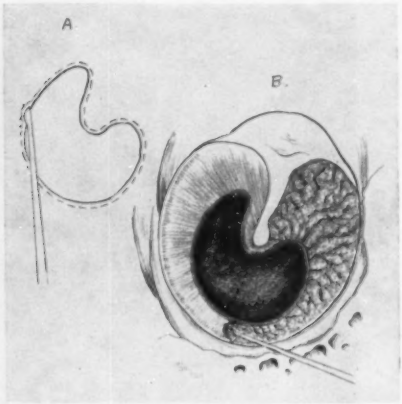

FIG. 19—(A) Removal of perforation margin. (B) De-epithelization of cutaneous layer.

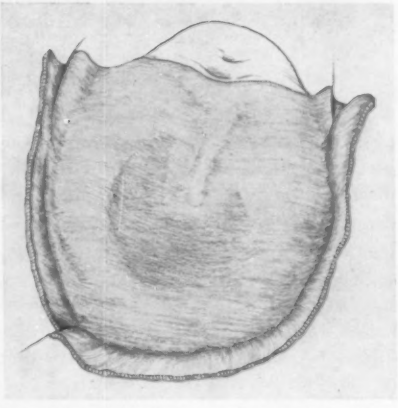

FIG. 20—Split thickness graft in myringoplasty.

now healed, or it may be the result of trauma. (The marginal perforation is almost always associated with active tympanic disease.)

The degree of hearing loss is related to location and size of the perforation. Also, associated ossicular lesions will be reflected in audiometric thresholds.

The perforation with no associated ossicular discontinuity lends itself to correction by myringoplasty in most cases.

In many instances, myringoplasty may

be successfully performed through a transmeatal approach. In narrow or tortuous canals, an endaural or postauricular approach may be necessary.

Closure will usually be successful following application of a split thickness graft to the periphery of the drum after removal of the perforation margins and de-epithelization of the cutaneous layer. In extensive perforations, epithelial denudations should extend to circumferential canal wall areas (figs. 18, 19, 20).

CHRONIC PURULENT OTITIS MEDIA WITH OSSICULAR NECROSIS

Chronic suppuration of the middle ear and its associated areas in the epitympanum and mastoid is usually the sequel of a rather specific virulent bacterial infection. In some cases, however, a benign bacterial condition may become serious only by virtue of prolonged blockade of the tympanic cavity and its lack of aeration. Such suppuration with its almost inevitable caries of the ossicular chain produces a serious problem. There is not only a major conductive hearing loss but a threat to life in view of the many critical anatomic relationships of the temporal bone. The time-honored approach to this problem through preordained radical or modified radical mastoidectomy should now be dropped in favor of a more rational concept, namely, that of exploratory mastoidectomy and exploratory tympanotomy accomplished through endaural and omega canal incisions. Simultaneous exploration of the mastoid process and the middle ear without premature sacrifice of the posterior canal wall and ossicular chain may conserve the hearing of many such patients. Following careful exploration of these areas, a truly conservative planned removal of necrotic bone and suppurative contents may be undertaken, combined when necessary with some type of tympanoplastic reconstructive procedure designed to save or improve the hearing.

CHOLESTEATOMA

Temporal bone cholesteatoma remains a very common otologic problem which has not disappeared in the antibiotic era. Every cholesteatoma requires surgical removal. No otologist can completely define the limits or nature of a cholesteatomatous mass by any otoscopic or roentgenray technique in existence today. The possibility of microscopic extention of

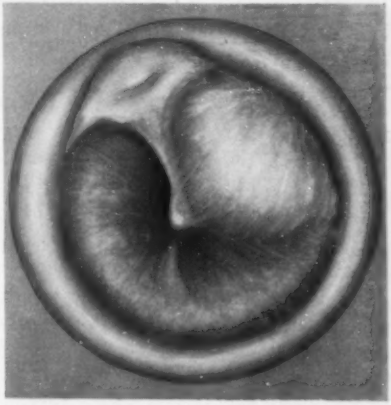

FIG. 21—Primary cholesteatoma with intact tympanic membrane.

cholesteatoma into critical areas of the epitympanum, tympanum and intracranial cavities constantly exists. No patient with a cholesteatoma may be considered safe under conservative medical therapy. This applies especially to children, in whom the rate of growth of cholesteatoma is much more rapid than in adults. Primary cholesteatoma may occur with an intact tympanic membrane (fig. 21).

Here again, in the past we were accustomed to the notion that every cholesteatoma required removal by a radical mastoidectomy. Some conservative otologists advocated modified radical procedures in many of these cases. They paved the way for the present support of tympanoplasty. The surgical treatment of cholesteatoma should utilize the

methodical approach of exploratory mastoidectomy and exploratory tympanotomy, as described above. This should include, however, a complete cholesteatectomy and the proper type of tympanoplastic procedure, both performed simultaneously following careful exploration. No preconceived surgical plan can be made except in the instance of obvious complete destruction of the entire tympanic cavity by cholesteatoma. In such a case, the radical mastoidectomy has been performed by the disease and no decision remains for the otologist other than the choice of tympanoplastic reconstruction. As in all tympanoplastic surgery, several stages may be necessary.

JUVENILE OTOSCLEROSIS

Otosclerosis, the most common cause of adult deafness, undoubtedly arises in childhood in many instances. It may not progress to footplate fixation until later in life. In some instances, however, the footplate may become fixed in early childhood and, more frequently, in adolescence. In the past few years, a significant number of fenestration operations have been performed on children with otosclerosis. The results of such surgical operations have not been as brilliant as those in adult cases, primarily because of the continued bony growth of the otosclerotic process itself.

Current experiences with stapes mobilization in juvenile otosclerosis suggest exploratory tympanotomy and stapes mobilization as a first step in bilateral cases. I do not feel that this is indicated in unilateral cases until adolescence. There is no urgency in such cases. If stapes mobilization is effective, obviously no further measures are indicated. If there is a primary improvement in hearing followed by a secondary return of ankylosis, stapes mobilization should be repeated at least once or even twice. Fenestration surgery should be reserved for the case of inoperable footplate ankylosis in which mobilization cannot be performed and for the case in which there is rapid return of the ankylosis on two or three occasions. However, in all cases of juvenile otosclerosis, both mobilization and fenestration offer guarded prognoses, since the same osteogenetic process may invade the new fenestra as well as the oval window. The case of juvenile otosclerosis may frequently be confused with a congenital tympanic anomaly. Differential diagnosis may be aided by nonprogression of deafness and lack of familial history in the anomalous case.

SUMMARY

1. The recently increased incidence of chronic tympanic effusions calls for more energetic study of etiologic factors.
2. Tympanic fluid effusions must be thoroughly drained surgically in order to prevent irreversible tympanic lesions.
3. Meticulous tympanoplastic surgical techniques will revolutionize the treatment of congenital tympanic anomalies, dry perforations, chronic otitis media, cholesteatoma, and juvenile otosclerosis.
4. The major types of conductive hypacusis in childhood all lend themselves to correction by recently developed surgical techniques.
5. The hard of hearing child with normal cochlear function and a strictly conductive lesion can hope for return of hearing to useful levels in the vast majority of cases.

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2. Goodhill, Victor, and Holcomb, A. L.: The relation of auditory responses to viscosities of tympanic fluids, Acta oto-laryng., in press.

Symposium: Deafness in Children — Knowledge and Practice

NONMEDICAL CARE OF CHILDREN WITH HEARING IMPAIRMENT

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BY INVITATION

DR. Bordley and Dr. McHugh have rightly emphasized the crucial need for *early* diagnosis and sophisticated consideration of a child's potential for developing the skills of communication. These skills in turn may effect his psychological and social growth. Of course, early diagnosis reveals the possibility for the kinds of treatment discussed by Dr. Goodhill. We have been reminded that the symptom commonly related to hearing impairment, disorders of communication, may have its origin in emotional disturbance, in low mentality or in abnormality of the central nervous system rather than in a lesion of the peripheral auditory mechanism. Obviously the determination of these and related conditions influences the educational plans for the child.

This discussion will assume that the child's difficulty is a hearing loss not complicated by the other conditions mentioned by Dr. McHugh. I shall assume further that the medical or surgical treatment described by Dr. Goodhill is not indicated. We are now interested in hearing loss not as a disease of the auditory system but as an impairment of social efficiency. We then find that the significant dimensions related to the nonmedical care of children with hearing impairment are (1) the amount of hearing loss and (2) the time of onset of hearing loss.

In relating difficulty of communication to the amount of hearing loss, it serves the purpose best if the hearing loss is expressed as the average loss at 500, 1,000 and 2,000 cycles per second (cps). Knowledge of losses at other frequencies aids in diagnosis but that is not important here. Patterns of audiometric loss may vary even in the frequencies from 500 to 2,000 cps and may influence the type of communication difficulties encountered by the listener. For example, children with better sensitivity at 2,000 cps than at 500 cps may understand if the sound gets to them and may ask the talker to speak *louder*, while the reverse situation may cause the child to say he hears but does not understand and may ask the talker to speak *more clearly*. Despite the possible variations, we believe the following classifications are useful for an understanding of the relation of amount of hearing loss to the impairment of communicative efficiency.

For the purposes of this discussion, children with hearing impairment have been grouped according to the amount of their hearing loss. In the following outline the amount of loss suffered by each group and the probable handicap are given:

Group 1: Less than 30 decibels. The

The major portion of this presentation is adapted from the author's chapters 11 and 12 of the Handbook of Speech Pathology, edited by Lee Edward Travis, New York, Appleton-Century-Crofts, 1957.

Presented at the Sixty-Second Annual Session of the American Academy of Ophthalmology and Otolaryngology, Oct. 13-18, 1957, Chicago, and sponsored by the Subcommittee on the Conservation of Hearing in Children of the Committee on the Conservation of Hearing.

child may have difficulty in hearing faint or distant speech; he is likely to "get along" in school, and he has normal speech.

Group 2: 30 to 45 decibels. Conversational speech is understood at a distance of 3 to 5 ft. without too much difficulty. The child may have some articulatory defects, and he may have difficulty in school if the speaker's voice is faint or if his face is not visible.

Group 3: 45 to 60 decibels. Conversational speech needs to be loud to be understood, and the child has considerable difficulty in group and classroom discussion. Language, especially vocabulary, may be limited and deviations of articulation and voice are noted.

Group 4: 60 to 80 decibels. The child may be able to hear the voice about one foot from the ear. He may identify environmental noises and may distinguish vowels, but he will have difficulty with consonants. His voice may show signs of deviation. Speech and language need to be taught.

Group 5: 80 plus decibels. The child may hear some loud sounds. Speech and language need to be developed through training.

In general, a critical point is reached when the loss is at 30 decibels, where communicative difficulty begins. Another critical point is when the loss is perhaps a little more than 60 decibels, where the visual system supplemented by hearing is likely to be the primary channel of communication. For our purposes we shall refer to groups 1, 2 and 3 as hard of hearing, and group 5 as deaf. Group 4 represents a transitional group and is likely to contain both hard of hearing and deaf children.

An important point along the time-of-onset dimension is roughly the age from 3 to 5. If a child is born with a hearing loss of approximately more than 60 or 70 decibels or has acquired it before age of 3, it is not probable that he will develop the expressive and receptive skills of communication the way a normal hearing child does. He will not initiate language through speech nor will he understand the speech of others without special educational measures. If hearing loss occurred after early childhood the teacher or therapist will need to study each individual's requirements according to the amount of his residual hearing and according to the knowledge of language and of speech that he has retained.

The most helpful and generally acceptable measures to ameloriate the difficulties of communication for the hard of hearing are (1) hearing aids, including auditory training; (2) instruction in lip reading; and (3) speech conservation and speech correction. Of course, psychological guidance for children and parents is frequently necessary.

Hearing Aids

When is a hearing aid indicated? Of course, when a child has difficulty in hearing in the situations in which he finds himself in everyday life, purchase of a hearing aid should be considered. The audiogram is a helpful guide. If the hearing loss in the better ear is greater than 30 decibels, a hearing aid is indicated. However, the user must be cautioned that no hearing aid will make him hear perfectly despite some of the optimistic statements made about instruments. If the loss is severe, the hearing aid is an invaluable supplement to communication by vision, and in the case of discrimination loss in particular, the hearing aid user needs intensive auditory training if he is to achieve optimum, or even any, help from the aid.

Incidentally, it is unfortunate that an all too frequent promotional feature of

the commercial distribution of hearing aids is the emphasis on concealing hearing loss. From the standpoint of education and rehabilitation this may be one of the major abuses in the field of hearing impairment. A cardinal principle of good mental health is the recognition of reality and the adjustment to it. Encouragement of evasion of reality by handicapped children and adults is a disservice to them and hardly worthy of a professional point of view.

Lip Reading

Lip reading, sometimes called speech reading, is an essential supporting skill for the hard of hearing. The eye and ear together appear to be better than either one alone; for this reason, emphasis in recent years has been on associating lip reading with hearing and with auditory training. The ability to master lip reading varies, as does any skill, from person to person. But the factors that contribute to success are exceedingly complex and difficult to analyze.

Speech Correction and Speech Conservation

The major speech problem for the hard of hearing is the correction and conservation of speech. The hard of hearing child does not hear speech and speech patterns clearly; therefore, he has a poor model to imitate. Furthermore, defective hearing prevents adequate monitoring of articulation and phonation. The defects of speech depend, of course, upon the time of onset, the amount of hearing loss, and the kind and amount of corrective training. Many hard of hearing children have no detectable disorders of articulation or voice because of mildness or recency of onset of hearing loss. Speech may deteriorate, however, with increase in the amount or length of time of the impairment. Therefore, it is desirable, in order to prevent deterioration, that educational procedures for such children include work in speech conservation.

Special techniques are necessary to build the skills of communication of deaf children. Speech must be learned by a multisensory approach that combines vision and touch, supplemented by the use of powerful hearing aids. Lip reading becomes the chief way of understanding spoken words. Some educators advocate supplementing or, if indicated, supplanting instruction by speech and lip reading with other forms of communication, such as the manual alphabet and the language of signs. The differing opinions about methods of instruction are elaborated elsewhere. One of the most formidable tasks in the education of the deaf is the development of the understanding and expression of language. The magnitude of this problem is not as great for the hard of hearing because they have at least partial auditory verbal reinforcement of their reception of language. It is through the ear that we first learn verbal language. Nevertheless, teachers of the deaf, by ingenious techniques, develop language in deaf children despite deprivation of their adequate use of the sensory channel considered essential for its growth.

If we are guided by the dimension of hearing loss, educational guidance for children with impaired hearing should recognize the following needs:

1. Less than 30 decibel loss—lip reading and favorable seating.
2. 30 to 45 decibel loss—lip reading, hearing aid (if suitable) and auditory training, speech correction and conservation, favorable seating.
3. 45 to 60 decibel loss—lip reading, hearing aid and auditory training, training in speech, special language work, favorable seating or special class.

4. 60 to 80 decibel loss—the kind of educational procedures for the deaf child described earlier, with special emphasis on speech, auditory training and language; with the possibility that the child may enter regular classes.
5. 80 plus decibel loss—special class or school as described earlier. Some of these children eventually enter high schools for the hearing.

With proper recognition of the difficulties encountered by members of groups 1, 2, 3, and some members of group 4 and with proper auxiliary aid, the needs of these children are apt to be met in a special class for the hard of hearing within a public school system or in the regular classroom itself. Where the child is placed will depend on the degree of his hearing loss and the availability of special help. The latter may be available through a special class or an itinerant teacher, in a speech and hearing clinic of a university or hospital, or in a society for the hard of hearing.

Perhaps the most significant fact about the education of the deaf in the United States is that it is universally available to all deaf children of school age. The quality of the education may vary, but it is important that no child need be denied an opportunity for it.

Although man has traveled a long tortuous road from the pre-Christian era in evolving an enlightened understanding of the social problems of deafness, a large portion of society still looks upon the deaf and hard of hearing as queer, dependent and, sometimes, ridiculous. We are all familiar with the cheap humor of which they are often the target. Since their handicap is not as visible as that of the blind and crippled, the deaf often find themselves in embarrassing and humiliating situations because others do not understand their special problems.

The answer of the deaf to such misunderstanding is to continue their social and economic achievements as self-respecting and productive individuals. Our social action for the deaf, therefore, should not aim for special privileges for them but should constantly strive to provide opportunity without discrimination for the deaf to help themselves.

The achievements of the deaf in the United States since the founding of the first school for the deaf in Hartford in 1817 have been good, but the record can be improved. This is the conjoint task of the teacher, the parent, the scientist, the clinician, the social planner and, of course, the deaf person himself.

SUMMARY

RAYMOND E. JORDAN, M.D.
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I WILL not attempt to summarize completely the papers you have just heard. Known facts concerning the deaf child were clearly and concisely presented by the speakers. Of greater importance at the moment are the facts yet to be determined.

Dr. John Bordley feels that an extension and validation of existing hearing tests for young children are needed.

Dr. Hollie McHugh believes that we need to know more about ways of assessing the integrity of the entire communication system.

Dr. Victor Goodhill indicates three points of weakness in our treatment of the hard of hearing child.

1. He feels that there is a marked increase in the numbers of unrecognized and inadequately treated cases of tympanic effusion.
2. He believes that many children with chronic lesions of the middle ear can now have practical hearing restored by tympanoplastic surgery.
3. He states that at present there is no medical treatment for nerve-deafened children and that such children should be spared unnecessary medical interference.

Dr. Richard Silverman emphasizes the point that early and accurate diagnosis influences the educational plans for the hard of hearing child. He feels that the achievements of the deaf in the United States have been good but that the record can be improved.

The purpose of this committee is to analyze, correlate and supplement present knowledge and practices in respect to the deaf child. Since October 1956, we have been engaged in a five-year study of the problem on a national basis. We hope that this study will not only define the problem but also point out the most effective directions for further study.

Our aims are three in number: (1) to develop an effective, economical and practical method for case finding; (2) to disseminate these findings to state and local agencies, both lay and professional; and (3) to recommend suitable methods of rehabilitation.

A pilot study is now under way at the University of Pittsburgh under the supervision of the Committee's full-time director, Eldon Eagles, Doctor of Public Health. The full resources of the Department of Otology, the Department of Audiology, and the School of Public Health are being utilized to develop the tools for the national study.

This entire program has been made possible by a grant from the National Institutes of Health to the Academy of Ophthalmology and Otolaryngology, and by a grant from the Children's Bureau.

We are aware that this program is an ambitious one. To assume the responsibilities for a task of this sort is in the good tradition of our Academy. We, of the Committee, have accepted the responsibility, fully aware of its magnitude and of its significance. As we move into our national studies, we shall need the help of the members of this Academy.

HORMONAL INFLUENCE ON THE ENZYMATIC MECHANISM OF ALLERGY

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BY INVITATION

THE object of this presentation is to demonstrate the practical implications of the endocrine influence upon the enzymatic involvement in immunity, and its impact upon allergy in general. In the enzymatic mechanism of allergy the whole organism is involved in the underlying pathologic change. Therefore, there are no specific immunologic problems in allergy of the respiratory tract. The practical implications discussed in the last chapter of this article give an over-all approach to the treatment of allergy based on enzymatic dyscrasia;[25] details of these suggestions should only be adapted to the anatomic characteristics of the respiratory tract.[53,62]

Before entering upon the discussion of the "hormonal impact . . .," a short review of "enzymatic dyscrasia" as the mechanism of allergy[25] will be presented. Since the origin of the enzymatic dyscrasia lies in the alteration of protein molecules, the discussion must start at the level of molecular protein chemistry, presented in a brief and simplified form.

Three types of amino acids (fig. 1) are the basic elements from which the protein molecules are built. Amino acids with their end and side groups may interact among themselves (fig. 2). All amino acids and elements built by them are three-dimensional, therefore the conjugation between these elements takes place in space, and each addition of another element yields a larger three-dimensional molecule. When amino acids conjugate among themselves, polypeptide chains are formed, which *in vivo* are in constant motility: coiling and uncoiling, swelling and dehydrating.[23] If polypeptides link together, they produce peptide molecules, which in turn may react between themselves, forming proteose molecules. Proteose molecule conjugation yields a simple protein molecule (fig. 3); protein molecules may react among themselves, building higher proteins or protein aggregates, the functions of which are more complicated than those of simple proteins.

The linkage, at various levels, of individual elements from which proteins are built is carried out by enzymes whose molecules belong to higher proteins or protein aggregates.[60] The enzymatic formation of protein *in vivo* is called protein anabolism. Some of these enzymes possess a dual capacity, namely, to build proteins and to destroy them by disrupting their intramolecular linkages; this latter action is called proteolysis or protein catabolism.[5] Physiologically, proteolysis runs uninterruptedly throughout all the stages in one chain reaction to the level of amino acids; such catabolism is denominated as "all-or-none" proteolysis,[51] which splits protein molecules to small dialysable fragments. In contradistinction to this physiologic proteolysis is the "piecemeal" type, in which highly dialysable fragments are split off, leaving heavy particles but no unchanged protein.

The direction in which the enzyme is acting is determined by the existing re-

Presented at the *Special Program* of the American Society of Ophthalmologic and Otolaryngologic Allergy, Oct. 19, 1956, Chicago.

MOLECULAR METABOLISM OF PROTEINS

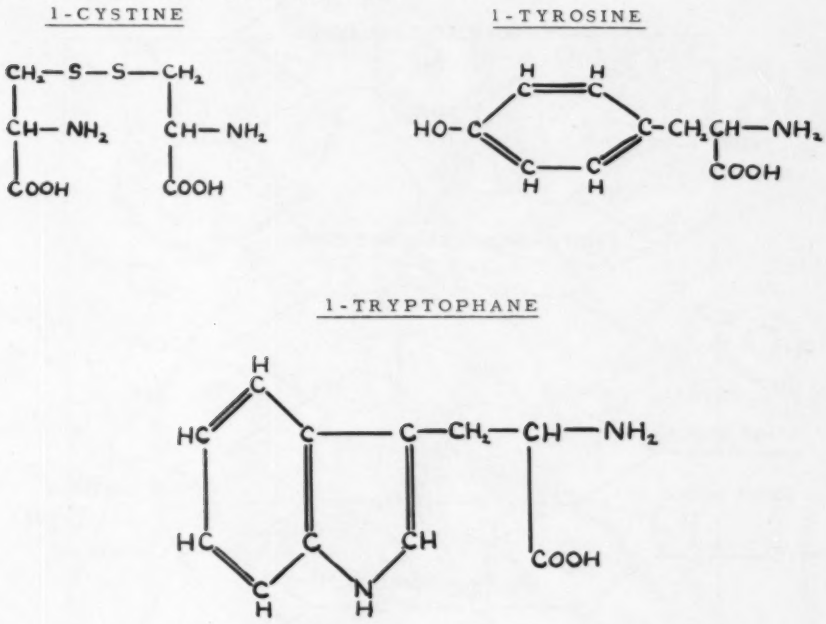

FIG. 1—Examples of three main types of amino acids (aliphatic, aromatic, and heterocyclic) which build polypeptide chains.

quirements for anabolic or catabolic reactions.[5] The actual initiation of the enzymatic actions is carried out by various agents, e.g., metabolic hormones (triiodothyronine, androgens, estrogens, corticosteroids, growth factor, insulin),[55] vitamins, lipoids, and minerals, which may catalize the enzymatic activities.

SUBMICROSCOPIC STRUCTURE OF CELLS

There are two types of cells in higher organisms: those with a cellular membrane and those without it. The first type of cells possesses, on its utmost periphery, densely concentrated lipoid molecules, with protein molecules, thinly dispersed, fitted neatly into the cortical "fenestrae" formed by the lipoid molecules. Figure 4 presents a simplified diagram of the submicroscopic structure of a cell with the membrane. All diagrammatic presentations demonstrate a concept graphically, but by their simplification they are in detail very inaccurate. With this remark in mind, Figure 4 may serve its purpose.

The second type of cell, without a cellular membrane, maintains its structure by a strong action of surface forces exerted by protein molecules located on the surface of the cell.[47]

The molecules of the structural proteins form a delicate mesh in the cellular cytoplasm, and in its canals a stream of intracellular fluid (enchylema) is constantly circulating.[47] The enchylema is composed mainly of water in which proteins (metabolic), electrolytes, lipoids, carbohydrates, etc., are dissolved. These protein molecules which are located in

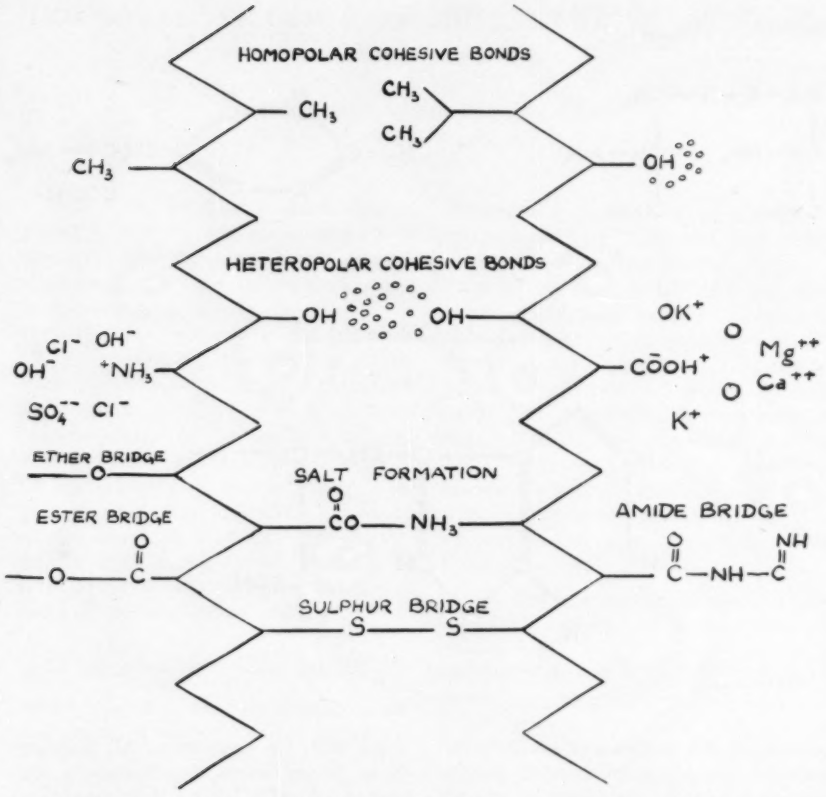

FIG. 2—Diagrammatic representation of junction of neighboring polypeptide chains in the cytoplasm. 0 = water molecules.

the cortical fenestrae, being in a state of dehydration or shrinkage (fig. 4), may temporarily open the cortical fenestrae, thus making access for a molecule which is at that time outside the fenestra.[47] This occurs constantly in the normal living organism. If the intruding molecule is a protein, the intracellular proteinases hydrolyse the molecule to the level of amino acids without any serious repercussions. If, however, cellular enzymes are unable to split the foreign molecules (figs. 4 and 5), a new enzyme may be formed by an "organizing factor" excreted from nucleus into cytoplasm, or by the pre-existing cytoplasmic "organizing factor"[67]; in such a case, the intruding molecule acquires the capacity of a new substrate inside the cell. This mechanism is called *adaptation or induction of new enzyme*,[66] and the enzyme itself is called *adapted or inducted enzyme*. The inducted enzyme may act in two ways:

1. In its catabolic phase, it may split the foreign molecule and repeat this action indefinitely if a new lot of the same foreign molecules re-enter the cell interior.

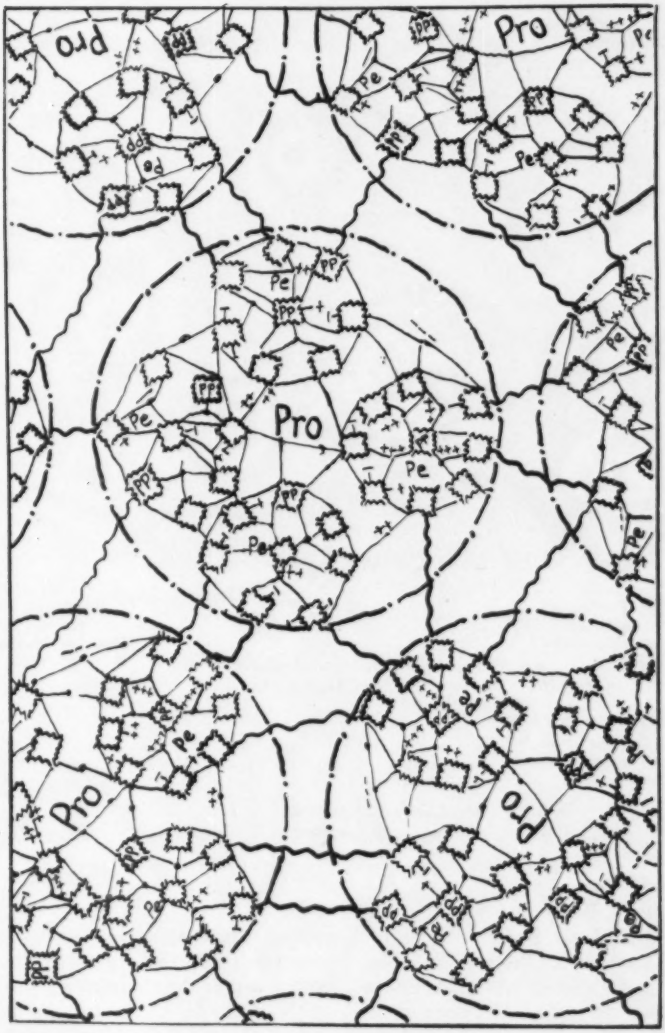

FIG. 3—Model of a molecule of a simple protein of which eight molecules of proteose are seen. ———— represents linkage between polypeptide molecules (PP); this linkage is hydrolysed by exopeptidases (Smith, 1952). —·—·— represents linkage between peptone molecules (Pe) by polyvalent ions; this linkage is hydrolysed by endopeptidases (proteases). ~~~~~ represents linkage between molecules of proteoses (Pro); this linkage is hydrolysed also by endopeptidases.

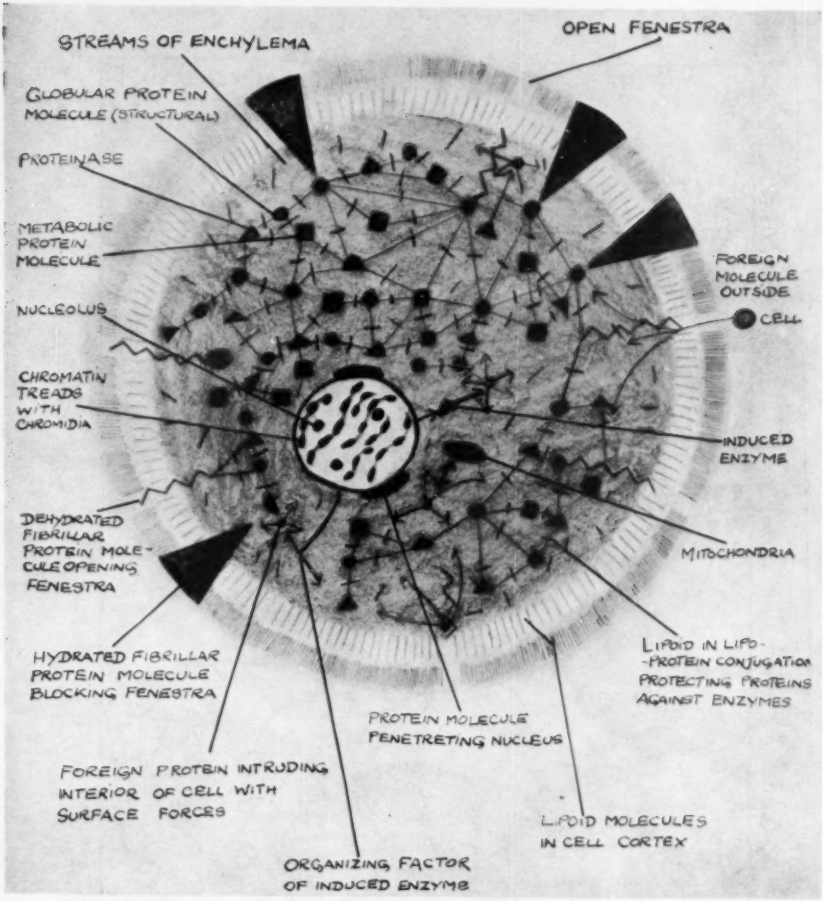
STREAMS OF ENCHYLEMA
OPEN FENESTRA
GLOBULAR PROTEIN MOLECULE (STRUCTURAL)
PROTEINASE
METABOLIC PROTEIN MOLECULE
NUCLEOLUS
CHROMATIN TREADS WITH CHROMIDIA
DEHYDRATED FIBRILLAR PROTEIN MOLECULE OPENING FENESTRA
HYDRATED FIBRILLAR PROTEIN MOLECULE BLOCKING FENESTRA
FOREIGN PROTEIN INTRUDING INTERIOR OF CELL WITH SURFACE FORCES
ORGANIZING FACTOR OF INDUCED ENZYME
PROTEIN MOLECULE PENETRETING NUCLEUS
LIPOID MOLECULES IN CELL CORTEX
LIPOID IN LIPO-PROTEIN CONJUGATION PROTECTING PROTEINS AGAINST ENZYMES
MITOCHONDRIA
INDUCED ENZYME
FOREIGN MOLECULE OUTSIDE CELL

FIG. 4—Diagram of submicroscopic structure of a cell possessing cellular membrane.

2. In its anabolic phase, it may resynthesize a replica of the foreign molecule and conjugate itself with that replica by the mechanism called "coupling reaction"[5]; this new coupled conjugation may remain in a static but dynamic equilibrium.

Thus, a newly formed substrate-enzyme conjunction is incorporated into the cell structure. This fact may have serious consequences on the whole organism when a foreign protein is incorporated into the organism's own tissues. Further developments will depend on the character of the foreign molecule and on the type of induced enzyme. In this essay I will discuss the alternative in which the intruding protein possesses an antigenic character leading to hypersensitivity.

This substrate-enzyme conjugation remains static in a dynamic equilibrium

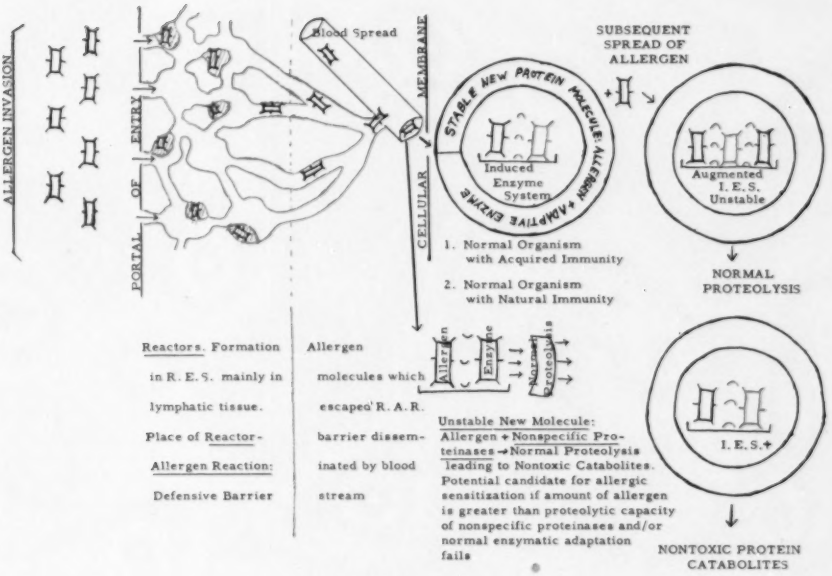
ALLERGEN INVASION
PORTAL OF ENTRY
Blood Spread
CELLULAR MEMBRANE
STABLE NEW PROTEIN MOLECULE: ALLERGEN + AMPTIVE ENZYME
Induced Enzyme System
SUBSEQUENT SPREAD OF ALLERGEN
Augmented I. E. S. Unstable
NORMAL PROTEOLYSIS
1. Normal Organism with Acquired Immunity
2. Normal Organism with Natural Immunity
Reactors. Formation in R. E. S. mainly in lymphatic tissue.
Place of Reactor-Allergen Reaction: Defensive Barrier
Allergen molecules which escaped R. A. R. barrier disseminated by blood stream
Allergen
Enzyme
Nonspecific Proteolysis
Unstable New Molecule: Allergen + Nonspecific Proteinases → Normal Proteolysis leading to Nontoxic Catabolites. Potential candidate for allergic sensitization if amount of allergen is greater than proteolytic capacity of nonspecific proteinases and/or normal enzymatic adaptation fails
I. E. S.+
NONTOXIC PROTEIN CATABOLITES

FIGURE 5.

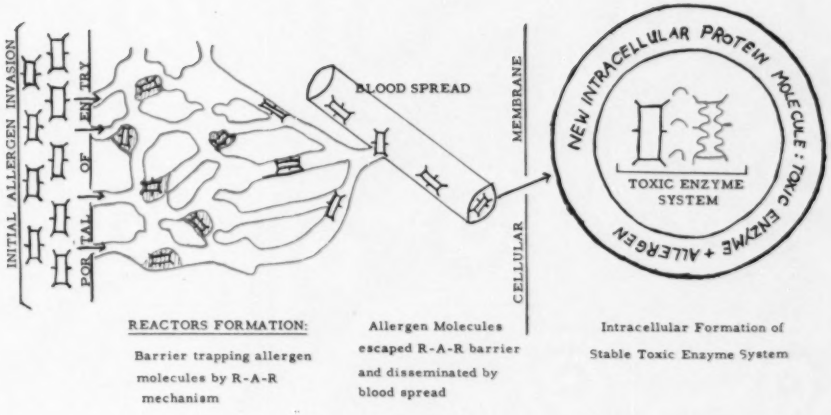
INITIAL ALLERGEN INVASION
PORTAL OF ENTRY
BLOOD SPREAD
CELLULAR MEMBRANE
NEW INTRACELLULAR PROTEIN MOLECULE: TOXIC ENZYME + ALLERGEN
TOXIC ENZYME SYSTEM
REACTORS FORMATION:
Barrier trapping allergen molecules by R-A-R mechanism
Allergen Molecules escaped R-A-R barrier and disseminated by blood spread
Intracellular Formation of Stable Toxic Enzyme System

FIGURE 6.

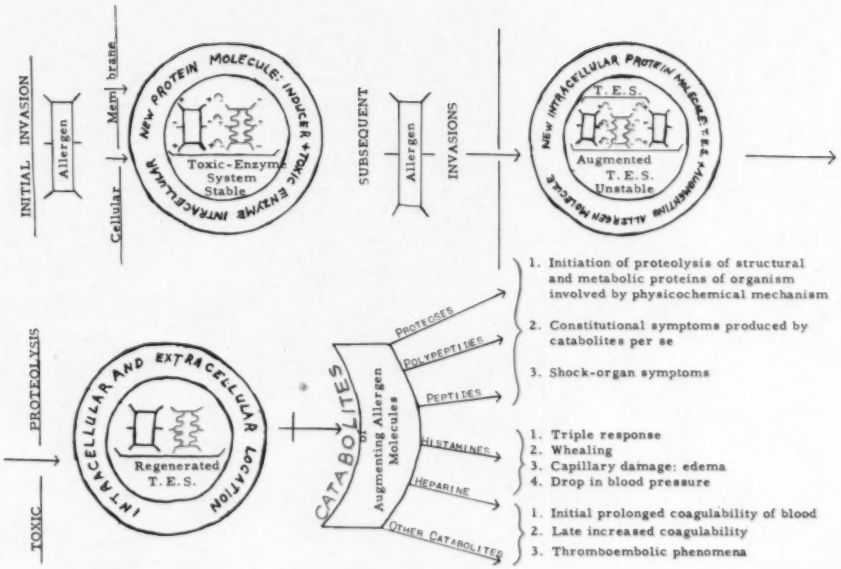
INITIAL INVASION
Allergen
Membrane
Cellular
NEW PROTEIN MOLECULE: INDUCER + TOXIC ENZYME INTRACELLULAR
Toxic-Enzyme System Stable
SUBSEQUENT
Allergen
INVASIONS
NEW INTRACELLULAR PROTEIN MOLECULE: T.E.S. + ADJUVANTINE ALLERGEN MOLECULE
T.E.S.
Augmented T.E.S. Unstable
1. Initiation of proteolysis of structural and metabolic proteins of organism involved by physicochemical mechanism
2. Constitutional symptoms produced by catabolites per se
3. Shock-organ symptoms
PROTEOLYSIS
TOXIC
INTRACELLULAR AND EXTRACELLULAR LOCATION
Regenerated T.E.S.
CATABOLITES of Augmenting Allergen Molecules
PROTEOSES
POLYPEPTIDES
PEPTIDES
HISTAMINES
HEPARINE
OTHER CATABOLITES
1. Triple response
2. Whealing
3. Capillary damage: edema
4. Drop in blood pressure
1. Initial prolonged coagulability of blood
2. Late increased coagulability
3. Thromboembolic phenomena

FIGURE 7.

until it is augmented by another molecule of the same substrate; then a complete hydrolysis of the augmenting molecule follows in a physiologic pattern.[5] At the end of this reaction, the substrate-enzyme conjugation regenerates, ready for another augmentation and hydrolysis. In this way a selfperpetuating chain reaction is established (fig. 5), causing no harm for the organism provided the proteolysis is of the "all-or-none" pattern mentioned earlier.

The metabolic and structural proteins are conjugated with proteolytic enzymes by various types of bridge formation.[63,64] The object of this separating barrier is to protect cellular proteins against an uncontrolled enzymatic destruction. One of these linkages is formed by lipoid molecules (lipoprotein). If separating lipoid molecules are removed by a physiologic factor a physiologic type of proteolysis follows. When the destruction of the lipoid-protecting barrier is exerted by an accidental factor, e.g., by surface forces of a foreign molecule inside the cytoplasm,[39] a chaotic proteolysis supervenes in an explosive form ("piecemeal" proteolysis).

ENZYMATIC DYSCRASIA AS A PATHOGENETIC MECHANISM OF ALLERGIC SENSITIZATION

The pathogenesis of anaphylaxis and allergy is not finally agreed upon. Two theories, described below, offer an entirely different approach to the sensitization mechanism and to the subsequent pathologic changes. These are (1) antigen-antibody reaction (AAR), and (2) intracellular enzymatic dyscrasia.

1. *Antigen-antibody Reaction as a Pathogenetic Mechanism of Allergy*

According to this theory, the union between antigen and antibody may exert two entirely different effects upon the organism:[52]

a. A beneficial one, if antibody interacts with infectious or toxic antigen, thereby neutralizing their injurious actions

b. A harmful one, if the same antibody interacts with the same antigen, infectious or toxic, or with (bland) nontoxic antigen in anaphylaxis

This dual action of AAR—one phase protecting and the other damaging the organism—is difficult to accept. This and many other discrepancies in the AAR mechanism of allergic hypersensitivity undermine the validity of this theory as related to the allergic sensitization. For example, a general consensus is that antibodies belong to gamma globulins, or that they are closely connected with them.[52] On the other hand, numerous reports indicate the existence of clinical allergy in individuals suffering from agammaglobulinemia and possessing no antibodies.[26,27,37,74] The defensive action of AAR as related to infectious and toxic immunity is established beyond any doubt, but its direct integration in anaphylactic sensitization is difficult to accept.

The rationale of this theory may be briefly summarized in the following way: The initial entry of an antigen into a nonsensitized organism stimulates the production of specific antibodies, and at the same time the tissue of the shock organs become sensitized to the antigen, but the nature of sensitization is obscure. When the subsequent, or shock, dose of antigen re-enters the sensitized organism, a union takes place between the molecules of antigen and those of antibody on or in the sensitized cells as well as in the body fluids. The impact of this union upon the function and the structure of sensitized cells is detrimental. The injured shock organs are responsible for the focal reaction, and toxins liberated from the sensitized cells into the body fluids precipitate constitutional symptoms.

2. *Enzymatic Dyscrasia as a Pathogenetic Mechanism of Allergy*

The initial entry of an "allergen" stimulates the production of various "reactors" in the reticuloendothelial system (RES), in the lymphoid tissue, and in the plasma cells. The terms "allergen" and "reactor" were deliberately selected to substitute for the terms antigen and antibody, respectively, in order to avoid confusion between the two fundamental mechanisms, which are both very potent and vitally important but entirely different biological reactions: (a) antigen-antibody reaction (AAR) and (b) reactor-allergen reaction (RAR).

a. The *AAR* is an important defensive mechanism whereby the organism builds up a specific immunity against the invasion of microbes and/or toxins, neutralizing their harmful activities.

b. The *RAR* is closely akin to the AAR, yet not identical. It has the task of immobilizing the allergen molecules, mainly in and around the portal of entry. *This activity of RAR neither directly participates in the process of sensitization nor is, per se, involved in the allergic or anaphylactic responses.* Table I and figures 5, 6, and 7 explain graphically the interrelation between RAR and sensitization.

MECHANISM OF SENSITIZATION

At the initial entry of an allergen into a nonsensitized organism some allergen molecules are trapped in the lymphoid tissue and in the RES (fig. 5). The arrested molecules of allergen stimulate the production of various reactors; thereby a *functional defensive barrier* is formed around the portal of entry of allergen. The task of this defensive barrier is to immobilize the invading molecules of allergen. The sequence of reaction which takes place in the RAR barrier is summarized in table I. However, some of the trapped allergen molecules may conjugate themselves with the molecules of the specific reactor, forming a large allergenic aggregate which could be remobilized from the RAR barrier and spread all over the organism. These large molecules are chemically related to the primarily invading allergen, yet they are not identical with it. The molecules of allergen alone and the molecules of large aggregates made of allergen and reactors could be looked upon as being related to each other as analogues are related to the original compounds. Some other molecules of allergen which escape arrest in the RAR barrier reach the interior of the organism by hematogenous spread and penetrate various cells (fig. 5). Subsequent events may take at least three different courses:

1. Mobilization of the natural immunity mechanism
2. Building up acquired immunity
3. Forming allergic hypersensitivity

1. *Natural Immunity*

The molecules of allergen which penetrate the interior of a normal cell are hydrolyzed by existing normal, nonspecific cellular proteinases to the level of nontoxic catabolites by "all-or-none" proteolysis.[51] This proteolysis runs in a physiologic pattern without any untoward consequences. The organisms which possess such proteinases are naturally immune to various allergens which in everyday life penetrate their body. Nevertheless, these organisms are potential candidates for anaphylactic sensitization if (a) intracellular enzymes are inhibited by cytoplasm poisons (table III),[13,16,18,19,31,32,41,60,75] or (b) the amount of the invading allergen suddenly increases so much that it exceeds the safety margin in the RAR barrier (table I) and the proteolytic capacity of the naturally immune tissues.

Further sequelae may lead either to building up acquired immunity or to initiating anaphylactic sensitization.

TABLE I

PHYSIOPATHOLOGICAL FORMULA OF IMMUNITY BY R-A-R MECHANISM

Initial State

10 A penetrates organism possessing R = 0; 10 A spread and sensitized shock organ. — R-A-R = 0

10 A penetrates organism possessing R = 1; 9 A penetrates and spreads: sensitization in progress. — R-A-R = 1

10 A penetrates organism possessing R= 2; 8 A spreads: sensitization in progress. — R-A-R = 2

Further stages of reactor production; completing of sensitization of shock organ. — R-A-R = 10

10 A pentrates organism possessing R = 10;
No spread of A: state of Immunological Equilibrium

Three variants which organism with Immunological Equilibrium may turn into:

(1)

15 A penetrates organism possessing R 10; R-A-R = 4 +

5 A penetrates organism

↓

5 A reaches shock organ

↓

Shock

(2)

10 A penetrates organism possessing R 15; No A spread, *surplus R 5.*
Margin of Immunity by
R-A-R MECHANISM.

No sensitization—Immune organism.

(3)

10 A penetrates organism possessing R 8; R-A-R = 8

A 2 spreads, and

↓

reaches sensitized organ

↓

Shock

A represents an arbitrary unit of allergen amount which penetrates organism.
R represents the arbitrary unit of reactor amount which gradually increases from 0 to 15.
R-A-R represents the arbitrary quantity of reactor-allergen-reaction which immobilizes allergen.

TABLE II

ACUTE ANAPHYLACTIC REACTION
(Anaphylactic shock)

INTRINSIC PHASE	*1st Stage* Static intracellular toxic enzyme system in the sensitized cell augmented by another molecule of allergen starts toxic proteolysis of the molecule which augmented T.E.S. No clinical manifestations. *2nd Stage* Proteose molecules born in cells disrupt substrate-enzyme conjugation of the structural proteins leading to uncontrolled proteolysis. Toxic catabolites yielded intracellularly cause focal symptoms of organ primarily involved in anaphylactic reaction.
EXTRINSIC PHASE	*3rd Stage* Sensitized cells damaged by intrinsic phase release toxin into general circulation which exert their pharmacological actions in organs hitherto unaffected; clinical manifestations: constitutional symptoms of anaphylactic reaction intermingled with focal signs. *4th Stage* (a) *Total recovery*: *acquired immunity* at the level of sensitized cells if (1) intracellular "metabolic storm" stimulated induction of a new enzyme with physiological potency for allergen proteolysis, or (2) sequential induction took place. (b) *Partial recovery*: self-perpetuating toxic proteolysis established in shock organ (Chronic anaphylaxis). (c) *Focal necrosis in shock organ* (topic manifestations) or in organs not involved in anaphylactic reaction (ectopic manifestations). (d) *Death of the whole organism* as a result of focal or constitutional reactions.

2. *Acquired Immunity*

If molecules of allergen or allergen-reactor aggregates located inside a cell are partially proteolyzed by "piecemeal" proteolysis by an inhibited enzyme (table III), it may initiate a transitory anaphylactic reaction (see next paragraph). This intracellular metabolic storm may set in motion the mechanism of induction of a new enzyme which next, by the mechanism of *coupling reaction*,[5] conjugates itself with the invading allergen, which acts as an inducting substrate. This new allergen-enzyme conjugation forms a dynamic equilibrium which cannot start proteolysis (being in a static equilibrium) until and unless it is augmented by another molecule of the same allergen[5]; such an augmentation takes place during the re-entry of the allergen. The augmenting molecule is then catabolized to the level of the nontoxic product (by "all-or-none" proteolysis), and the enzyme-allergen conjugation regenerates itself to be ready to start a physiologic proteolysis all over again, if such an opportunity arises. This mechanism constitutes the basis of an acquired immunity build-up at the level of the sensitized tissue (fig. 5). If, however, accidentally an enzymatic poison again inhibits the induced enzyme (table III), an anaphylactic (toxic, "piecemeal" proteolysis) catabolism may be set off and remain established in thus sensitized cells. For example, if a drug

which per se is nonallergenic (aspirin,[16] sulfonamides,[18]) does inhibit the adaptive enzyme in the pre-existing enzyme-allergen conjugation, being in a static equilibrium, an anaphylactic proteolysis may be set in motion only when another molecule of the same allergen augments this static conjugation with inhibited enzyme.

The enzymatic inhibitor may depress, at the same time, various enzymes in the allergen-enzyme conjugations located in different organs, hence producing a great variety of clinical forms of the drug allergy. In this contention, enzymatic poisons are looked upon as *triggering but not participating in the anaphylactic response itself.*

The acquired immunity mechanism operates through two main factors, each being independent of the other, both protecting the organism against the anaphylactic response, yet each one by a different mechanism:

a. That at the site of RAR in the defensive barrier in RES, by forming an excess of reactors (safety margin, table I), which immobilizes an unexpected large invasion of allergen

b. That at the level of sensitized cells, where the inducted enzymes possess the capacity to proteolyze allergens to nontoxic catabolites (fig. 5)

3. *Allergic Sensitization*

The initial entry of an allergen into a nonsensitized organism stimulates the formation of various reactors in the RAR barrier. In certain instances, however, the organism is unable to produce an adequate RAR barrier to prevent a total immobilization of the subsequent penetrations of the same allergen and/or to dispose of the large aggregates composed of allergen-reactor molecules. Those allergen molecules which, at the initial stage of penetration, bypassed the RAR barrier and which penetrated the various cells are liable to induce the formation of a new enzyme; the allergen-reactor aggregates which penetrate the interior of cells can act also as an agent in the induction of a new enzyme. This new enzyme, as a result of (a) coexisting hormonal dyscrasia, (b) action of enzymatic inhibitors, and (c) genetic trait (table III), is capable of proteolyzing molecules of allergen only to the level of proteose (by "piecemeal" proteolysis). This same new enzyme conjugates itself with the inducting allergen by the mechanism of coupling reaction,[5] thus forming a static enzyme-allergen conjugation. These cells are now sensitized, but the dynamic conjugation of toxic enzyme-allergen, being in a static form, is unable to produce any injurious activity. As soon as another lot of allergen molecules enters these cells and augments the enzyme-allergen conjugation (shock dose), a toxic proteolysis ("piecemeal" proteolysis) is touched off, causing an explosion of anaphylactic reaction which produces a sequence of reaction (table II and figs. 6 and 7).

The static equilibrium between inducted enzyme and allergen-reactor aggregate differs somewhat from the conjugation composed of inducted enzyme and allergen alone. In the latter instance the allergen alone forms a type of enzyme-substrate equilibrium with the induced toxic enzyme. In the former instance a large aggregate composed of the same allergen linked with the specific reactor represents a new substrate which is related to the allergen but not identical with it; these two allergens may act individually as different inducers in the enzymatic induction process. Thus these two forms of enzyme-substrate conjugations may coexist in the same cell, or they may be located in different cells, or sensitization may be produced only by one type of the chemically related allergens. When molecules of allergen alone would enter a cell sensitized by allergen-

TABLE III

ETIOLOGIC CLASSIFICATION OF ALLERGY BASED ON THE MECHANISM OF ENZYMATIC DYSCRASIA

FACTOR	MECHANISM	CLINICAL FORMS
Endocrinopathies	(1) *Thyroid gland*: (a) deficiency of tri-iodothyronine, lack of differentiating factor on the pre-forming elements of enzymes in nucleus and in cytoplasm (in chromidia, mitochondria, etc.). (b) excess of tri-iodothyronine, early exhaustion of induction mechanism of enzymes. (2) *Androgen deficiency*: deficient protein anabolism, negative N balance. (3) *Estrogen-progesterone dyscrasia*: unknown mechanism (deficient protein anabolism). (4) *Growth factor deficiency*: negative N balance, deficiency in synergistic action with insulin and sex hormone.	(1) *Hypothyroidism and Hypometabolism.* Commonest forms: nasal, eyes, respiratory tract and skin allergy. Any form of allergy is possible, localized in one or more organs. *Hyperthyroidism.* Commonest forms: skin, alimentary tract, central nervous system allergy. Involvement of other organs possible. (2) *Hypogonadism.* Commonest forms: nasal and skin allergy predominant in preadolescent and adolescent groups. (3) *Estrogen-Progesterone Dyscrasia.* Menstrual and menopausal molimina, painful breast, infertility, dermatoses, etc. (4) *Growth Factor.* Commonest forms: allergy in infants, children, youth; skin, alimentary and respiratory tracts.
Enzymatic Poisons	*Exposure to cytoplasmic poisons in past and/or at time of clinical manifestations.* CO, illuminating gas, inhalent anesthetics, war gases, etc. Antibiotics, sulfonamides, heavy metals, fluorides, salicylates, barbiturates, quinine, opium and coca alkaloids, bacterial toxins, etc. Inhibition of induced enzymes in allergen-enzyme conjugations being in static, dynamic equilibrium, thus releasing toxic proteolysis resulting in allergic reactions: *trigger action of enzymatic poisons*—poison itself not participating in allergic response.	Drug allergies Drug intolerance Drug idiosyncrasies Skin rashes caused by bacterial toxins. Allergic phases of bacterial and viral infections, e.g., tuberculosis
Hereditary Factor	(1) *Primary genetic debility* of the pre-forming elements of enzymes in nucleus: transmitted as dominant feature, according to mendelian law. (2) *Endocrinopathies in parents.* (3) *Exposure of parents to enzymatic poisons.*	Commonest: atopic dermatitis, all forms of eczema, allergic dermatitis, any form of allergic reactions localized in any organ.

reactor aggregates (for example, if therapeutically injected allergen avoided the RAR barrier which surrounds the portal of entry), they may interact with the existing toxic enzyme system in the sensitized cell because of its "analogue" relationship to the substrate. This reaction, however, cannot activate the static equilibrium between the enzyme and substrate (allergen-reactor aggregate). In fact, this linkage blocks the histochemical receptors of the toxic enzyme system, thereby preventing its augmentation by allergen-reactor aggregates which could activate toxic proteolysis. Such an action may be regarded as protective, and it may be compared to the blocking of a fuse in an explosive bomb. Such a mechanism could explain one of the therapeutic actions of desensitization by injection of allergen into the sensitized organisms. (See paragraphs on "Sequential Induction" and on "Enzymatic Inhibitors.")

At the end of toxic proteolysis, the conjugation between toxic enzyme and allergen regenerates in the form of a static equilibrium again ready to be augmented. Once this cycle of proteolysis is established in a "sensitized" cell, it may exist there indefinitely as a self-perpetuating mechanism. This newly formed enzymatic pattern creates an enzymatic phenotype which could be transmitted genetically as a dominant characteristic. This may be one of the forms of hereditary transmission of allergic diseases.[8,68]

The anaphylactic reaction is the basic phenomenon of the pathogenesis of acute and chronic allergy. The chain of reactions seen in the anaphylactic response may be segregated into two phases, each one composed of two stages (table II). Anaphylactic response may run in an uninterrupted chain of reactions throughout all four states; this kind of a response takes place in a *classical anaphylactic shock*. The reaction may, however, be arrested at various levels, and the gravity of the reaction may fluctuate according to the quantity and quality of toxin released. The understanding of this mechanism of anaphylactic reaction makes clear the rationale of the optimal dosage[30,32] of allergen in the therapeutic "sequential induction," discussed in the last section of this article.

The toxic proteolysis located within sensitized cells may yield intracellularly a great variety of toxins; therefore, this part of the reaction is called the *intrinsic phase* (table II and fig. 7). The following toxins have been identified in anaphylactic reactions:

1. Histamine,[9,10,56,58,62,73] and others
2. Heparine[38,73]
3. Various proteoses[21,22,49,50,76]
4. Serotoxin[58]
5. Acetylocholine[11,12]
6. Leukotoxin, pyrexin, necrosin, leukopenic factor[45]
7. Bradykinin[4]

The quality of liberated toxins in anaphylactic proteolysis depends on the type of protase and the type of protein hydrolyzed, e.g., lung tissue liberates histamine[58,73] and others; liver liberates heparine[38,73]; and skin yields histamine.[17,19,20]

The damage to sensitized cells is in proportion to the amount and toxicity of the yielded toxins in intrinsic phase; in extreme cases the cells involved may be completely destroyed causing focal necrosis as an ultimate result of the anaphylactic reaction. If cells are only partially damaged, the intracellular toxins may leak out from the cells into the body fluids. Pharmacologic actions of these toxins inflict various specific injuries upon the sensitized as well as upon the nonsensitized tissues; symptoms derived from these toxic activities are known as the constitutional reaction, and the mechanism which precipitates this reaction is

called the second or extrinsic phase of the anaphylactic reaction (fig. 7 and table II).

Proteolytic debility of the induced enzymes in the sensitized cell may be caused by the following three factors, operating individually or in combinations: (1) hormonal dyscrasia, (2) cytoplasmic poisons, and (3) hereditary trait. The details of actions of these three factors are summarized in table III, and the discussion upon the mechanism of their actions is presented in the next paragraph.

THERAPEUTIC IMPLICATIONS OF THE ENZYMATIC MECHANISM OF ALLERGY

1. Spontaneous recovery
2. Sequential induction versus desensitization
3. Hormonal influence upon the enzymatic dyscrasia
4. Enzymatic inhibition of anaphylactic proteolysis

1. *Spontaneous Recovery*

Sensitization, or hypersensitivity, in the enzymatic mechanism of allergy is a histochemical, self-perpetuating reaction established in the cells of a shock organ. The underlying cause consists of an injury inflicted by the above three factors upon the preforming elements of enzymes in the nucleus and/or in the cytoplasm, before or at the time of the induction of a new enzyme. A spontaneous recovery is possible and very often takes place (1) when the noxious factor injuring the enzyme system can be elicited and eliminated, and (2) when the damage inflicted by this factor is reversible.

2. *"Sequential Induction" versus Desensitization*

Desensitization in the enzymatic mechanism of allergy is the substitution of physiologic for toxic proteolysis. In the majority of instances, with established hypersensitivity (spontaneous recovery did not take place) desensitization is impossible for the following reasons: (a) The inflicted injury upon the cellular enzyme system has a permanent character. (b) The existing underlying change is deeply rooted in the enzymatic phenotype of the sensitized cells, creating a hereditary trait transmitted as a dominant characteristic.

To accomplish desensitization, two methods could be applied; either desensitization with optimal dosage of antigen (sequential induction), or specific inhibition of toxic enzymes by an analogue of antigen. (See the section on "Enzymatic Inhibition of Anaphlyactic Proteolysis.")

Under these circumstances the optimal result may be obtained by administration of infinitesimally small amounts of allergen,[1,29,30,31,33] which should produce an infinitesimally small shock within sensitized cells. Reactions from this shock must remain within the stages of the intrinsic phase. Reaction of such a degree may set off the sequential induction (successive adaptation) but cause very little damage to the cell structure itself. To explain the meaning and mechanism of sequential induction, the original definition will be quoted verbatim[7]:

> The exposure of an organism to a single inducer which is also a substrate may result in the induction of a sequence of enzymes, since the metabolism of the primary, exogenous inducer gives rise to the formation of a succession of intermediary metabolites each of which in turn serves as an inducer for the enzyme which converts it into the next number of metabolic chain. This phenomenon is termed "sequential induction" (simultaneous or successive adaption).

The rationale of the treatment with sequential induction is to stimulate enzymatic inactivation of toxins yielded intracellularly in sensitized cells during the intrinsic phase of anaphylactic re-

action; for example, to stimulate the activity of histaminase in order to destroy liberated histamine before it can injure sensitized cells, or to produce an induction of a protease which could proteolyze toxic proteoses manufactured in the intrinsic phase.

Higher doses of allergen, which could release strong reactions of the intrinsic phase or precipitate an extrinsic phase with symptoms of constitutional reaction, miss the object of the treatment for two reasons: (a) They may injure various organs or cause death of the whole organism. (b) They eliminate the possibility of sequential induction, because gross injury inflicted upon the enzymatic system in the cells exerts an inhibitory rather than a stimulating effect on enzymes.[5,60]

3. *Hormonal Influence Upon the Enzymatic Dyscrasia*

The hormonal treatment is an effective requisite in the therapeutic armamentarium in selected cases of allergy.[35,75] The indications for hormonal supplementations are (1) diagnostic evaluation of the underlying hormonal involvement, and (2) irresponsiveness, or poor response to the elimination of the offending allergen, to desensitization, and to symptomatic treatment (antihistaminic drugs, decongestants, etc.).

The commonest offender in this respect is deficiency of the thyroid function. Thyroid hormone, by its action on enzyme functions and on the protein formation,[2,43,44,48,65] exerts a potent effect on the correction of enzymatic dyscrasia. Small doses of the thyroid hormone have no place in the treatment of allergy, unless the disease is complicated by circulatory involvement. In such an event great caution must be taken, particularly in the initial dose. Thus, in allergic conditions with no cardiac disease present the recommended dosage of thyroxine is 1 to 3 mg. per day; of triiodothyronine, 10 to 75 mcg. per day; of dessicated thyroid powder (if active principle can be ascertained), 60 to 200 mg. per day. In allergic conditions complicated by cardiac involvement, the initial dose should be around 0.25 to 0.5 mg. per day of thyroxine, 2.5 to 5 mcg. per day of tri-iodothyronine, 10 to 15 mg. per day of dessicated thyroid powder. However, the individual sensitivity to thyroid hormone must always be kept in mind, particularly in cases of hypometabolism.[42]

In allergy related to hyperthyroidism,[48,28] the standard antiallergic treatment should be supplemented by one of the antithyroid treatments.

Androgen supplementation of the antiallergic treatment of allergy associated with hypogonadism has a beneficial effect, particularly during the preadolescent and adolescent ages and in climacteric molimina of both sexes. The mechanism of this action is not clearly understood. The potent anabolic action of androgens in protein metabolism is not connected with androgenic activity.[3,36,40,55] If speculation in biochemistry is allowed, one may suppose that androgens by stimulating the anabolic processes of proteins may suppress the excessive catabolism of proteins[55] which is known to exist in allergic states.[24] Androgens with high anabolic action (19-nortestosterone[3]), and despite poor androgenic actions, may produce precocity in boys and masculinization in girls, therefore great caution must be taken to avoid these side effects. Methyl testosterone has an important supportive value in antiallergic therapy if administered sublingually in doses of about 2.5 mg. per day once weekly in the preadolescent, and in similar doses every second day in adolescent boys. In girls, small doses (15 mg.) of androgens with low androgenic and high metabolic potencies, e.g., 19-nortestosterone, given subcutaneously once or twice

weekly combined with pregnanediol[35] or estradiol,[55] beneficially influence allergic conditions refractory to regular antiallergic treatment.

Progesterone and its catabolic degradate, pregnanediol, have been tried in various conditions connected with menstrual and menopausal molimina, infertility, various dermatoses, and rhinitis, with encouraging results.[35] The recommended dosage of pregnanediol is 0.1 to 1 mg. in successive doses given subcutaneously two or three times weekly.

The adrenal glands with their steroids and sympathomimetic amines exert potent actions upon allergic responses. The influence of adrenal steroids on the activities of various enzymes as discussed recently at the meeting of New York Academy of Science in papers by Kochakian,[40] Cohen,[6] Hayano,[34] and others, and the applicability of these steroids in ophthalmology and otolaryngology was recently critically reviewed by Rawlins.[54]

The mechanism of the therapeutic action of adrenocorticol steroids is still not conclusively proved. What has been proved, is that these steroids activate proteolytic action of various proteinases *in vitro* and *in vivo*.[40] On the other hand, it is well known that allergic exudates contain large quantities of highly active proteinases.[45,59,69,70,72] Therefore, it is feasible to assume that tryptic enzymes in the allergic exudates are so activated by corticosteroids that the exudate is disposed of by proteolysis. During the relief period caused by steroid therapy, sensitized tissue may be able to set in motion the sequential induction mechanism producing new proteases which can hydrolyse anaphylactic toxins. In such an event the inducted enzymes can successfully cope with the anaphylactic toxic catabolites, and the relapse of symptoms will not occur when steroid therapy is discontinued. Unfortunately, in most of the instances of anaphylactic reaction, spontaneous recovery (spontaneous sequential induction) seldom takes place. Therefore, one may expect a relapse of symptoms soon after withdrawal of the steroid therapy. Dougherty and Schneebeli[14] suggest that corticosteroids in allergic inflamation act ". . . through an antiphlogistic action *sui generis* rather than by interfering with the antigen-antibody union."

Cortical steroids exert similar action upon other proteolytic enzymes present in the tissues not involved in the allergic response (existing as double disease), e.g., in young granulation tissue possessing highly active proteinases, corticosteroids may exert a destructive action with detrimental results.[46] Other metabolic effects (potassium depletion, sodium retention, etc., which constitute clinical hypercorticism) restrict liberal application of corticosteroids in allergic responses, unless a strict control of the progress of therapy is possible.

The relief of the acute symptoms in an anaphylactic reaction by sympathomimetic amines (epinephrine, norepinephrine, etc.) is brought about mainly by two actions: (1) antagonistic activity with histamine, and (2) constriction of small arterioles leading to inhibition of transudation and elevation of lowered blood pressure; all of these activities have a lifesaving action in acute anaphylactic shock.

4. *Enzymatic Inhibition of Anaphylactic Proteolysis*

A selective inhibition of enzymes participating in anaphylactic proteolysis might be regarded as the etiologic treatment of allergy, since the underlying dysfunction is enzymatic dyscrasia. The principle object of this therapy would be to select competitive and noncompetitive inhibitors which would be capable of eliminating the anaphylactic proteolysis without affecting, to any greater extent, the action of enzymes not involved in allergic reactions.

(a) *In competitive inhibition,* the inhibitor must possess a greater affinity to the enzyme-allergen conjugation located in insensitized cells than the allergen itself. Such inhibitor may be, for example, an analogue of the specific allergen. The inhibiting analogue would block receptors in the enzyme-allergen molecules by conjugation with the enzyme; this action would prevent the augmentation of the enzyme-allergen system, which is the initiating step in anaphylactic proteolysis. However, to obtain that aim is not a simple task. First, the allergen must be found; the next task is to find an analogue of the allergen which will possess the optimal temperature and pH of the body. Furthermore, in the required concentration it should not affect the activity of other enzymes which are not involved in the allergic response.

When the allergen itself has been identified, an attempt could be made to inhibit the toxic enzyme system in the sensitized cell by a competitive mechanism, for example, by the administration of the identified allergen by a different route than that of the original entry of allergen. By this means it is hoped that the organism was sensitized by the allergen-reactor aggregates, and that parenterally injected allergen, as an analogue, will block the toxic enzyme system in the sensitized cells, preventing the activation of the static equilibrium between toxic enzyme and allergen-reactor aggregate (acting as a substrate).

(b) *In noncompetitive inhibition,* the inhibitor reacts with enzyme-allergen molecules and destroys their enzymatic potency. This action takes place regardless of the presence of the augmenting allergen molecules. Such an activity should be directed selectively only toward those enzymes which are involved in the anaphylactic proteolysis. Heavy metals (silver, arsenic, gold, etc.), dyes and alkaloids could be considered as inhibitors employed in this type of inhibition.

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COUNCIL MINUTES

SIXTY-SECOND ANNUAL SESSION

October 12 and 16, 1957
Palmer House, Chicago

Present:

Erling W. Hansen, LeRoy Schall, Louis Clerf, David Harrington, O. E. Van Alyea, Algernon B. Reese, A. C. Furstenberg (absent from Saturday meeting), William L. Benedict, Kenneth L. Roper, Eugene L. Derlacki, A. D. Ruedemann, Dean M. Lierle (absent from Saturday meeting), Daniel Snydacker, Glen G. Gibson, Sam E. Roberts, Harold H. Joy, William J. McNally, Victor A. Byrnes.

Absent: Walter H. Theobald

The meeting was called to order at 9:00 a.m. by Dr. Erling W. Hansen, President.

The Executive Secretary, Dr. William L. Benedict, gave the report of the Executive Secretary.

I

1. *Fellowship* (as of January 1, 1957):

Junior	5377
Senior	410
Life	459
Honorary	33
Inactive	103
	6382

2. *Elevations to Senior Fellowship on January 1, 1957:*

Athens, Alvin G. ..... Duluth, Minn.
Atwood, Edward A. ..... Paterson, N. J.
Bergmann, Milton Blaine ..... West Islip, N. Y.
Bloom, C .Hugh ..... Easton, Pa.
Breuning, Paul Harold ..... New York, N. Y.
Brewster, Hyder Ford ..... New Orleans, La.
Brobeck, Von Haller ..Colorado Springs, Colo.
Buckman, Lewis Taylor ..... Wilkes Barre, Pa.
Bullard, Carleton William ..... Auburn, N. Y.

Cady, Frederick J. ..... Saginaw, Mich.
Casten, Virgil Glenn ..... Boston, Mass.
Chainski, Edward L. ..... Chicago, Ill.
Cline, Samuel ..... Boston, Mass.
Coombs, Arthur Jethro ..... Chicago, Ill.
Culler, Arthur Merl ..... Columbus, Ohio

Darrough, Lawrence Earl ..... Dallas, Texas
Dewar, Murray McColl ..... Grand Rapids, Mich.
Dowling, Harvey Elwood ..... Calgary Alta., Canada

Evans, Maurice G. ..... Boston, Mass.

Fine, Abraham ..... Brooklyn, N. Y.

Garrett, John Dempsey ..... Indianapolis, Ind.

Hirst, Otto C. ..... Philadelphia, Pa.
Hoffman, William Asa ..... Chicago, Ill.
Holloway, Joseph Minor ..Fredericksburg, Va.
Huber, Walter A. ..... Tulsa, Okla.

Johnson, Henrietta May ..... Pasadena, Calif.
Johnston, Kenneth Burns ..... Montreal, Que., Canada

Kammerling, Theodore Simon .... Melrose Park, Ill.
Kend, Lee ..... Flushing, L. I., N. Y.
Knight, John Swann ..... Kansas City, Mo.
Kooler, Louis R. ..... Minneapolis, Minn.
Krimsky, Emanuel ..... Brooklyn, N. Y.

Laird, Robert Glover ..... Grand Rapids, Mich.

Lang, George H. .....Savannah, Ga.
Lupo, Carl Wilton .....Brooklyn, N. Y.

Marcotte, Raymond Henry .....Nashua, N. H.
McAlester, Andrew Walker, III, Kansas City, Mo.
McAskill, James Ernest .....Watertown, N. Y.
McAuliffe, Gervais Ward .....New York, N. Y.
McCollough, Thomas Boyle .....Pittsburgh, Pa.
McDougall, J. Calhoun .....Atlanta, Ga.
Mendel, James Harold .....Miami, Fla.
Miller, Joseph Austin .....South Orange, N. J.
Moehle, Walter .....Brooklyn, N. Y.
Moll, Arthur Mackenzie .....Grand Rapids, Mich.
Mumma, Claude S. .....Los Angeles, Calif.

Nippe, Leonard .....Toledo, Ohio

Ohly, John H. .....Brooklyn, N. Y.
O'Rourke, Carroll .....Fort Wayne, Ind.
Otrich, Grover Cleveland .....Belleville, Ill.

Payne, Brittain Ford .....New York, N. Y.
Perry, Claude Severence .....Columbus, Ohio

Ray, Victor, Jr. .....Cincinnati, Ohio
Regan, James J. .....Boston, Mass.

Sanders, Sam Houston .....Memphis, Tenn.
Sayad, William Y. .....West Palm Beach, Fla.
Scheer, Henry Morris .....New York, N. Y.
Shope, Edward Pierce L. .....Camden, N. J.
Simon, Emanuel .....Albany, N. Y.
Sitchevska, Olga L. .....New York, N. Y.
Straatsma, Clarence Ralph .....New York, N. Y.
Sullivan, Robert E. .....Nashville, Tenn.
Swann, Cecil Collins .....Ashville, N. C.

Townes, C. Dwight .....Louisville, Ky.
Towson, Charles E. .....Philadelphia, Pa.
Tremble, George Edward .....Montreal, Que., Canada

Vandevere, William Ewing .....El Paso, Texas

Weaver, Homer Virgil .....Canton, Ohio
Weiss, Jack Allan .....Chicago, Ill.
Westervelt, Herbert O. .....Benton Harbor, Mich.
Wilkerson, William W., Jr. .....Nashville, Tenn.
Woodruff, George H. .....Joliet, Ill.

3. *Elevations to Life Fellowship on January 1, 1957:*

Abrahamson, Ira A. .....Cincinnati, Ohio

Beck, August L. .....New Rochelle, N. Y.
Black, Paul .....Lincoln, Neb.
Bouvy, Leo B. .....LaGrande, Ore.
Brown, Audrey O. .....Detroit, Mich.
Brown, Charles W. .....San Diego, Calif.
Bushman, Louis B. .....Omaha, Neb.

Campbell, Malcolm D. .....Royal Oak, Mich.
Clifford, Thomas Percy .....Detroit, Mich.
Cohen, Herman B. .....Philadelphia, Pa.

Dailey, Gilbert L. .....Harrisburg, Pa.
Davis, Frederick Allison .....Madison, Wis.
Doherty, William B. .....Mount McGregor, N. Y.

Figi, Frederick A. .....Rochester, Minn.
Fink, Walter H. .....Minneapolis, Minn.
Flynn, Charles T. .....New Haven, Conn.
Folsom, William H. .....Fond du Lac, Wis.
Fraser, Wilbert G. .....Ottawa, Ont., Canada
Freimuth, Louis E. .....St. Louis, Mo.

Galloway, Thomas C. .....Evanston, Ill.

Hebert, Arthur W. .....Lodi, Calif
Higbee, David R. .....San Diego, Calif.
Hoffmann, John N. .....Canton, Ohio

Jones, U. G. .....Johnson City, Tenn.
Jones, William S. .....Menominee, Mich.

Keating, Thomas F. .....Detroit, Mich.

Lebensohn, James E. .....Chicago, Ill.
LeJeune, Francis E. .....New Orleans, La.
Leyda, James H. .....Denver, Colo.
Lundon, Arthur E. .....Montreal, Que., Canada
Lyle, Donald J. .....Cincinnati, Ohio

O'Rourke, Donald H. .....Denver, Colo.

Poos, Edgar E. .....Detroit, Mich.
Potter, William W. .....Knoxville, Tenn.

Ramsey, G. Stuart .....Montreal, Que., Canada
Ryan, Linus M. .....St. Louis, Mo.

Schall, LeRoy A. .....Boston, Mass.
Schuster, Frank Phillip .....El Paso, Texas
Skirball, Joseph J. .....Boston, Mass
Smith, Carlie Souter .....Springfield, Mo.
Stark, William Berkely .....Toronto, Ont., Canada
Summers, William S. .....Lake Worth, Fla.

Veasey, Clarence A., Jr. .....Spokane, Wash.

Wagner, William A. .....New Orleans, La.
Weinstein, Morris A. .....Philadelphia, Pa.
Wencke, Carl G. .....Battle Creek, Mich.
Williams, M. M. .....Scranton, Pa.
Winger, Ira B. .....Toledo, Ohio
Woodworth, William P. .....Detroit, Mich.

4. *Deaths reported in* 1956:

Adams, Charles Joseph .....Kokomo, Ind.
Allen, Thomas Dyer .....Evanston, Ill.

Baeseman, R. Winfield .....Allenhurst, N. J.
Barnett, Irving Francis .....Chicago, Ill.
Beil, John Wallace .....Kansas City, Mo.
Beyer, Louis J. .....Buffalo, N. Y.
Boeckmann, Egil .....St. Paul, Minn.
Bordley, James, Jr. .....Baltimore, Md.
Boyes, Truman Leo .....New York, N. Y.
Breakstone, Edgar O. .....Chicago, Ill.

Brown, John MacKenzie ..... Los Angeles, Calif.
Brunner, Hans ..... Newark, N. J.
Bryan, James Leslie ..... Nashville, Tenn.
Butt, Miriam M. ..... Philadelphia, Pa.

Clement, Lucian Orville ..... Salem, Ore.
Courtney, Robert Hull ..... Richmond, Va.

Davidson, Herman Porter ..... Chicago, Ill.
Defnet, William Anthony ..... Detroit, Mich.
Deichler, L. Waller ..... Philadelphia, Pa.
Donegan, Justin Martin ..... Chicago, Ill.
Dulaney, Octavus ..... Louisville, Ky.

Ewing, Fayette Clay ..... Pineville, La.

Feaster, Henry Joseph ..... Brooklyn, N. Y.
Fischer, Nathaniel Arthur ..... Pittsburgh, Pa.
Flynn, James Lawrence ..... Boston, Mass.
Friedenwald, Jonas S. ..... Baltimore, Md.

Garlock, Arthur Varney ..... Bemidji, Minn.
Gillum, John Randolph ..... Terre Haute, Ind.
Gleason, John Edwin ..... Detroit, Mich.
Goldcamp, Edward C. ..... Youngstown, Ohio
Goldman, A. Milton ..... Rockville Centre, L. I., N. Y.
Goodwin, Olin Mansell ..... Fairmont, W. Va.
Graebner, Herbert ..... New York, N. Y.

Haden, Henry C. ..... Houston, Texas
Hall, Edwin Perry ..... Oneonta, N. Y.
Harper, LaMar Blewett ..... Yuma, Ariz.
Harris, Charles Morgan ..... Philadelphia, Pa.
Harshman, Martin Luther ..... LaFayette, Ind.
Hartzell, Solomon Mayer ..... Beverly Hills, Calif.
Henderson, James Alexander ..... Quincy, Ill.
Henning, Carl ..... Rehoboth Beach, Del.
Hodsdon, Benjamin Franklin ..... Jacksonville, Fla.
Hory, Joseph Stanton ..... New York, N. Y.
Howard, Harvey James ..... Clearwater, Fla.
Hughes, William F. ..... Indianapolis, Ind.
Husik, David Nathaniel ..... Philadelphia, Pa.
Hynes, Frank Joseph ..... New York, N. Y.

Inglis, Harry J. ..... Boston, Mass.

Joynt, Martin John ..... LeMars, Iowa

Kapp, Henry ..... Haverhill, Mass.
Key, Sam N., Sr. ..... Austin, Texas
Kincaid, John H. ..... Hollywood, Calif.
King, Charles Royal ..... Toledo, Ohio
King, Edward Daniel ..... North Hollywood, Calif.
Knapp, Arnold ..... New York, N. Y.
Krebs, Adolph ..... La Mesa, Calif.
Krieger, George M. ..... Michigan City, Ind.

Lamb, Robert Scott ..... Washington, D. C.
Lehan, James W. ..... Greeley, Colo.
Lester, Harry Sumner ..... Streator, Ill.
Levin, Bert O. ..... St. Paul, Minn.

Mallon, Frank E. ..... Brooklyn, N. Y.
McGuire, John ..... Bluefield, W. Va.
Meissner, Tom O. W. ..... Athens, Ga.
Morris, Samuel Archard ..... Los Angeles, Calif.
Morrison, Lewis Francis ..... San Francisco, Calif.
Moyer, John Sanford ..... Metuchen, N. J.
Muldoon, Wilfrid Edward ..... San Antonio, Texas

Nairn, George Waverly ..... Warsaw, N. Y.
Nutter, C. F. ..... Nashua, N. H.

Osburn, John Nelson ..... Corona del Mar, Calif.
Owsley, Robert Wright ..... Arcadia, Calif.

Payne, Richard Johnson ..... St. Louis, Mo.
Perdue, James Devote ..... Mobile, Ala.

Reed, James Ross ..... Pasadena, Calif.
Riter, Kersey Clyde ..... Salt Lake City, Utah
Robbins, Clarence Edward ..... Pierre, S. D.
Roberts, William Humes ..... La Jolla, Calif.

Schugt, Henry Paul ..... New York, N. Y.
Simpson, Morris Bigelow ..... Kansas City, Mo.
Smith, James W. ..... New York, N. Y.
Smith, William Hamilton ..... Hagerstown, Md.
Sputh, Carl Brosius, Sr. ..... Indianapolis, Ind.

Taylor, H. Marshall ..... Jacksonville, Fla.
Thompson, Peter Hunter ..... Boston, Mass.
Tracht, Robert Russell ..... St. Paul, Minn.
Traugh, George Holton ..... Fairmont, W. Va.

Weidlein, Evan Ford ..... Cleveland, Ohio
Westlake, Samuel B. ..... St. Louis, Ohio

Zehnder, A. Charles ..... Newark, N. J.

5. *Resignations Received*:

Merwin, Thomas Keery ..... La Jolla, Calif.

Ostrow, Irving ..... Poughkeepsie, N. Y.

Parker, Ray ..... Johnstown, Pa.

Snow, Harold L. ..... Beverly Hills, Calif.

Whisnant, A. M. ..... Charlotte, N. C.

6. *Requests for Inactive Status*:

Bowers, Berna Thomas ..... Denver, Colo.
Buxton, Jorge Norman ..... New York, N. Y.

Cecha, Albin Hastings ..... Long Beach, Calif.

Decker, Philip Harold ..... Williamsport, Pa.

Godwin, Dean Ely ..... Long Beach, Calif.

Harley, Halvor Larson ..... Atlantic City, N. J.
Heine, William Howard ..... Fremont, Neb.

Houser, Karl Musser ..... Philadelphia, Pa.
Marchman, Oscar Milton ..... Dallas, Texas
McCart, Howard W. D. ..... Toronto, Ont., Canada
Means, Russel Garret ..... Columbus, Ohio

Melton, Bernard L., Jr. .....Phoenix, Ariz.
Ornston, Darius Gray .....Philadelphia, Pa.
Sanders, John Levis .....Greenville, S. C.
Smith, Henry Buel .....Hempstead, N. Y.
Stitt, Howard Leigh .....Cincinnati, Ohio

7. Three Fellows were reported as delinquent in the payment of dues for a period of more than three years.

8. The National Institutes of Health, through the NINDB has made two grants for nation-wide field investigations.

An application for a grant for Use of Diagnostic Procedures and Therapy in Uveitis was submitted on October 30, 1956 by the Executive Secretary-Treasurer of the Academy. The grant (3-B-9023) was approved by the National Advisory Neurological Diseases and Blindness Council in the amount of $43,056.00 for the period April 1, 1957, to March 31, 1958. An estimate for future requirements of $43,-435.00 a year for four more years was tentatively approved.

An Advisory Board was to be named as co-investigators. President Erling Hansen appointed to the Advisory Board a Council Committee consisting of the following men: Doctors Frank Newell, Bernard Becker, David Cogan, Alson Braley, Alfred Maumenee, A. D. Ruedemann, Irving Leopold, and Michael Hogan.

An agreement has been made with Hollister-Stier Laboratories to furnish 400 diagnostic kits as specified by the Executive Secretary-Treasurer of the Academy. The kits will be ready for distribution early in 1958. A comprehensive brochure on the use of the diagnostic material furnished for the investigation has been prepared by Dr. Alan Woods. Administration of the investigation will be the subject of the first conference of the Committee on Sunday, October 13, 1957.

The Subcommittee on Hearing in Children of the Committee on Conservation of Hearing, Dr. Raymond E. Jordan, chairman, applied for a grant (3-B-9045) from the NINDB on December 18, 1956. In March 1957 the application was approved for a field investigation program, a nation-wide Program to Study the Problems Relating to Conservation of Hearing in Children in the amount of $51,-000.00 for the period April 1, 1957, to March 31, 1958. Estimates for future requirements were tentatively approved for $62,000.00 for the next three years and $31,500.00 for the fourth year. The principal investigator for this project is the Subcommittee on Hearing in Children of the Committee on Conservation of Hearing, American Academy of Ophthalmology and Otolaryngology. The grant was made to the Academy and is managed by the Subcommittee on Research and Finance.

9. The Joseph K. Dennis Insurance Company of Chicago submitted to the Academy a plan of Business Expenses Disability Insurance for members of the American Academy of Ophthalmology and Otolaryngology. This plan was approved by the Subcommittee on Research and Finance and submitted to the Council.

10. A questionnaire on specialty training was mailed to members of the Academy and candidates. The purpose was to obtain information to aid the Teachers' Sections and for guidance in programming. The returns from 5,246 questionnaires were approximately as follows: Total Returns—5,246 (approximately 85 per cent of membership)

		PER CENT
Practice limited to Ophthalmology	2,440	46+
Practice limited to Otolaryngology	1,563	30
Practicing the combined specialties	1,217	23+
(not in practice, 26)		

Among those who practice the combined specialties

	PER CENT
198 are Board certified Ophthalmology	17
705 are Board certified Otolaryngology	60.6
262 have been certified by both Boards	22.4

Also members were asked to indicate whether they wished to receive the American Orthoptic Journal as a supplement to the TRANSACTIONS. As a result of that questionnaire, we reduced the printing of the Journal by 2,000 copies.

11. Report on the 1956-1957 Home Study Courses:

The following is a record of registrations for the seventeen years the Home Study Courses have been offered by the Academy:

YEAR	OPHTHALMOLOGY	OTOLARYNGOLOGY	TOTAL
1940-1941	301	114	415
1941-1942	238	117	355
1942-1943	163	81	244
1943-1944	126	74	200
1944-1945	175	84	259
1945-1946	290	112	402
1946-1947	353	191	544
1947-1948	436	220	656

1948-1949	375	230	605
1949-1950	317	184	501
1950-1951	244	117	361
1951-1952	301	130	431
1952-1953	240	105	345
1953-1954	265	111	376
1954-1955	235	134	369
1955-1956	254	125	379
1956-1957	279	156	435
Totals	4,592	2,285	6,877

Of those taking the Home Study Course in Ophthalmology for 1956-1957 one-third completed the entire course, missing no assignments; another one-third sent in no papers at all; and one-quarter sent in some papers but not all. The remaining 8 per cent sent in some papers and have arranged either to take the entire Course again, or only those subjects which they missed last year.

For Otolaryngology 36 per cent completed the Course; 31 per cent sent in no papers; and 26 per cent sent in some papers. An additional 7 per cent who sent in some papers are taking the entire Course over, or have arranged to submit papers on the subjects which they missed last year.

We believe that this is an extraordinarily high completion rate for correspondence work of any type.

Registrations for 1957-1958 are incomplete. There are 7 less in Ophthalmology and 28 less in Otolaryngology than on the same date last year, when the enrollment was the highest we have had for six years.

FACULTIES

The following changes have been made in the Faculties during the past year:

New Appointments

Ophthalmology: M. Noel Stow (Associate for Embryology, Anatomy and Neuro-anatomy); Robert W. Hollenhorst (Associate for Perimetry and Neuro-ophthalmology).

Otolaryngology: Joseph H. Ogura (Associate for Pathology).

Changes in Status

Ophthalmology

Senior to Consultant: Raymond E. Meek, P. J. Leinfelder.

Associate to Consultant: Cecil W. Lepard.

Associate to Senior: John W. Henderson, Robert W. Hollenhorst.

Otolaryngology

Senior to Consultant: William C. Thornell.

Associate to Senior: Harold F. Schuknecht.

CHANGES IN NAMES OF SUBJECTS COVERED BY COURSES

Ophthalmology

From: External Diseases, Bacteriology and Virology

To: Ocular Microbiology, External Diseases and Aseptic Technique

Otolaryngology

From: Bacteriology

To: Microbiology

PUBLICITY

The Home Study Courses are publicized through announcements in the specialty journals; poster announcements sent to heads of departments of Ophthalmology and Otolaryngology in medical schools and hospitals approved for residency training; listing in the Postgraduate Courses issues of the AMA Journal, and miscellaneous publicity in the Academy TRANSACTIONS.

FREE REGISTRATION FOR THE ACADEMY MEETING

Registrants for the 1956-1957 Home Study Courses have been offered free registration for the Academy Meeting this year.

DISCUSSION PERIODS

Discussion Periods based on the Home Study Course in Ophthalmology are offered as a part of the instruction course program and are scheduled as a ten-hour continuous course, cost $20.00. All 1956-1957 registrants for the Home Study Course in Ophthalmology have been notified that complimentary tickets are available to them.

EXHIBIT

The Home Study Course exhibits will be shown this year in Space S-4 on the Club Floor.

A "HOME STUDY COURSE" IN SOUTH AMERICA

Several months ago we received from Rio de Janiero, Brazil, information about an *"Orientation Course in the Study of Ophthalmology 'inspired by the Home Study Courses'."* It is under the direction of Dr. Almiro Azeredo of the State Hospital, Rio. The Course covers a period of seven months and is based upon monthly lists of reading references and examination questions. From the material sent to us it appears that an enormous amount of work has been done in setting up the Course.

From time to time colleagues from other

countries have asked for copies of our material, and in some instances for detailed information about the organization and operation of the Home Study Courses, with a view to working out some similar plan in their own countries. Some of the places from which such enquiries have come are England, Sweden, West Germany, Japan and Korea.

DANIEL SNYDACKER, M.D.
BEN H. SENTURIA, M.D.
Secretaries

Dr. Daniel Snydacker moved that the report of the Executive Secretary be accepted as read. The motion was seconded by Dr. Eugene Derlacki and carried.

II

The Treasurer, Dr. Benedict, submitted the audit for 1956, made by Byers, Wobschall and Miller, Certified Public Accountants, and the financial status of the Academy as of September 30, 1957. (*The audit for* 1956 *appeared in the May-June* 1957 *issue of the* TRANSACTIONS. *The financial status of the Academy as of September* 30, 1957, *uncertified, is published herewith.*)

EXHIBIT "A"

AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
Balance Sheet as of September 30, 1957

ASSETS

Current Assets:			
Cash on Hand		$ 25.00	
Cash in Banks:			
Northwestern National Bank of Rochester		69,349.86	
First National Bank of Minneapolis		3,986.30	
Bank of Montreal, Toronto, Canada		908.96	
Checks for collection		12.00	
Membership dues, delinquent		1,550.00	
Installment accounts receivable		1,000.00	
Accounts receivable, others		1,722.44	
Inventories:			
Abstracts, manuals, monographs and bound volumes		19,055.82	
EMBRYOLOGY OF THE EYE filmstrips and slides		1,630.00	
EMBRYOLOGY OF THE EAR albums		1,358.91	
Wisconsin Fair Survey		3,380.00	
Total Current Assets			$103,979.29
Investments:			
Educational fund	$245,611.29		
Wherry Memorial Lecture Fund	5,400.00		
General fund	75,000.00	$326,011.29	
Plus: Advance in market values as of Dec. 31, 1956		28,890.71	
Total Investments			354,902.00
Fixed Assets:			
Furniture and Fixtures	$ 18,356.73		
Less: Depreciation	8,578.70	$ 9,778.03	
EMBRYOLOGY OF THE EAR film project	$104,516.62		
Less: Depreciation	25,738.44	78,778.18	
EMBRYOLOGY OF THE EYE film project	$ 41,775.00		
Less: Depreciation	30,426.00	11,349.00	
Total Fixed Assets			99,905.21
Deferred Charges:			
Atlas of Otolaryngic Pathology		$ 30,083.53	
Atlas of Slit-Lamp Gonioscopy		15,844.52	
Prepaid expenses		487.14	
Prepaid insurance		817.07	
Prepaid postage		46.07	
Total Deferred Charges			47,278.33
Total Assets			$606,064.83

LIABILITIES AND NET WORTH

Current Liabilities:			
Accounts payable		$ 11,656.22	
Accrued Social Security tax		277.22	
Accrued Withholding tax		1,510.55	
Deferred income:			
Membership dues		175.00	
Advance payments—			
Bound Volumes and Manuals		3,831.00	
Total Current Liabilities			$ 17,449.99
Undisbursed Funds from Special Contributions:			
Wherry Memorial Lecture Fund		$ 5,940.05	
Subcommittee on Noise in Industry			
Grants from Insurance Companies Associations	$ 52,811.95		
Grant from American Petroleum Institute	5,000.00		
	$ 57,811.95		
Disbursements	56,715.51	1,096.44	
N.I.H. Grants in Aid:			
Grant No. 3-809023 (Uveitis)	$ 43,056.00		
Disbursements	10,021.51	33,034.49	
Grant No. 3-8-9045 (Hearing)	$ 51,000.00		
Disbursements	1,356.48	49,643.52	
Total Undisbursed Funds from Special Contributions			89,714.50
Net Worth:			
Surplus — January 1, 1957		$417,053.51	
Excess income over expense—year to date		81,846.83	
Total Net Worth			498,900.34
Total Liabilities and Net Worth			$606,064.83

Dr. Kenneth Roper moved that the report of the Treasurer be accepted as read. Dr. LeRoy Schall seconded the motion, which carried.

III

The report of the Editor of the TRANSACTIONS was read by Dr. Benedict, Editor-in-Chief, as follows:

For the period September 1, 1956, through August 31, 1957:

During the year just past, an average of 7,980 copies of the TRANSACTIONS were printed bimonthly. Of these, 700 of each 1956 issue and 875 of each 1957 issue were set aside for bound volumes, and an average of 7,173 were mailed, an increase in circulation of 194 over last year. The following categories are represented:

Fellows	6,199
Candidates	156
Subscribers	470
Libraries	112
Exchange and Miscellaneous	68
Advertising and Agents	59
Complimentary	42
Single Copies	57

Seven hundred and fifty orders for the 1957 bound volume have been received to date.

The *Revenue* from the TRANSACTIONS was as follows:

Subscriptions:	
Members	$40,330.00
Candidates	1,992.00
Nonmembers	4,695.00
Bound Volumes	3,573.00
Single Issues	149.75
Directory	30.00
American Orthopic Journal	227.00
Advertising	20,161.58
Cuts and Engraving	344.00
Reprints	1,001.19
Total Revenue	$72,503.52

The *expenditures* for the TRANSACTIONS

Bimonthly Issues	$23,647.70
Bound Volumes	1,874.72
Directory	5,179.61
American Orthoptic Journal	5,364.41
Cash Discounts Allowed	388.81
Cuts and Engraving	1,156.63
Paper (stock and envelopes)	15,335.02
Freight and Express	44.61
General Expense	149.30
Postage	884.44
Reprints	2,625.33
Salaries	15,696.67
Social Security Tax	328.79
Total Expenditures	$72,676.04
Expenditures Over Revenue	$ 172.52

The past six issues have averaged 184 pages per issue, including news notes, directory of societies, committee reports, positions available, and miscellaneous notices. The Directory of Ophthalmologic and Otolaryngologic Societies is printed twice a year, in the May-June and the November-December issues.

The average number of pages of paid advertising was 28.33, representing 40 advertisers.

The seventh volume of the American Orthoptic Journal (Dr. William E. Krewson, III, editor) is just off the press. The first volume of this journal consisted of 55 pages. The present volume contains 208 pages. The first six volumes were sent to all subscribers and members, approximately 7,000 copies. After the survey made this year, the number printed was reduced to 3,500.

The Directory was published in June, with all names and addresses corrected to April 1.

The following manuals have been revised or reprinted during the past year:

Berens and King: Ocular Surgery

Rucker: The Interpretation of Visual Fields

A new manual by Jack Davies on Embryology of the Head and Neck in Relation to the Practice of Otolaryngology was published in July.

The 1954 Wisconsin Fair Hearing Survey: Statistical Treatment of Clinical and Audiometric Data appeared in August. The cost was $5,030.00.

One new manual, Microbiology of the Eye, by Ted Suie, is now in press, as well as the following revisions:

Pressman et al.—Nonsurgical Complications of Otolaryngological Surgery

Juers—Hearing Tests

Veasey—Refraction Difficulties

Becker—Principles of Otolaryngologic Plastic Surgery

Dr. Schall moved that the report of the Editor be accepted as read. Dr. Victor Byrnes seconded the motion, which carried.

IV

Necrologist's Report to the Council for 1957

The following deaths are recorded from October 1956 to October 1957

John Hedley Atkinson
Robert Beattie
John Wallace Beil
William Wightman Blair
Truman Leo Boyes
Joseph Bruder
Abram Breneman Bruner
Frank E. Burch

George Winston Burchfield

Robert Caldwell
Gail Ellsworth Chandler
J. D. Collins

James S. Davis
Lyn Waller Deichler
Murray McColl Dewar
William Edwin Dickerson
James Arthur Downing
Octavus Dulaney

Slocomb R. Edwards
Clarence William Engler

John W. Fairing
Guy Rothwell Fisher
W. H. Folsom
Leonard Fox
Robert C. Fraser

Milton Tacitus Gaillard
Samuel Goldhammer
Thomas John Goodfellow
James D. Goodman
George F. Gracey
Herbert Graebner

Richard G. Hamilton
Halvor Larson Harley
Solomon Mayer Hartzell
A. M Hauer
James Alexander Henderson
Carl Henning
Clarence Charles Hetzel, Sr.
Harvey James Howard
Ray Whitbeck Hughes
Thomas E. Hughes

Harry J. Inglis

William R. Jacobs
Mark W. Jacoby
Walter Jellis
Simon Jesberg
Harry V. Judge

Henry Kapp
Percy Kaufman
Sam N. Key, Jr.
LeRoy Taylor Kincannon
Charles Royal King
George Madison Krieger

Nathan Kent Lazar
Lavel H. Leeson
Forrest Shetterly LeTellier
James Prince Lewis
Joseph D. Lewis
Harold I. Lillie
H. M. Lokey
Samuel Herman Long

Julian Barnett Marks
Roy David Martin
James Ernest McAskill
Frederic J. McIntire, Jr.
O. B. Monosmith

Lewis Francis Morrison
John Sanford Moyer
Eugene Lee Myers

Harley Dore Newby

John Henry Ohly

Richard Johnson Payne
Louis M. Pearlman

Francis P. Quinn

George F. Reineke
George Bond Ridout
Otto Carl Risch
Edward D. Risser
Kersey Clyde Riter
Dan Abell Russell

Albert E. Seligman
E. C. Sewall
Francis X. Siegel
Morris Bigelow Simpson
Ferris N. Smith
Frank R. Spencer
A. B. Spiegelglass
William F. C. Steinbugler
William H. Stokes

Gilbert Stevens Tabor
George H. Traugh

Harry Allen Van Osdol
C. A. Veasey, Sr.

James W. Ward
Joseph R. Weintrob
Peter D. Westerhoff
Minor E. White
C. B. Wylie

Herman Eugene Yazel
Arthur Meyer Yudkin

The report of the Necrologist was accepted by general consent.

V

Old Business

At the Council Meeting in October, 1956, the following resolution amending the Constitution was presented to the Council: "Associate Fellows may be elected from those in fields allied to ophthalmology and otolaryngology who are not eligible to other fellowship classifications and who are proposed by two Active Fellows, approved by the Council, and have a three-fourths affirmative vote of all Fellows present at the annual meeting.

"Associate Fellows shall pay dues equal to one-half the regular dues for Junior Fellows. They shall not be eligible to vote or to hold office, but they shall receive the TRANSACTIONS."

The proposed amendment was read at the annual meeting in 1956 and published in the

TRANSACTIONS. The provisions for amendment of the Constitution have been met, and it is now up for action.

Dr. Roper moved that the amendment be approved by the Council and brought before the annual meeting for action. The motion was seconded by Dr. Byrnes and carried.

VI

Communications

1. Dr. Michael J. Hogan, chairman of the Committee on Ophthalmic Pathology, wrote to the Executive Secretary-Treasurer on June 20 that a young Canadian ophthalmologist wished to spend a year on a fellowship at the Armed Forces Institute of Pathology. Fellowships allowed by the National Council provide an annual stipend of $4,800. It was Dr. Hogan's suggestion that the Academy appropriate $4,800 for such a fellowship in the A. F. I. P.

The recommendation was referred to the Finance Committee.

2. Dr. Paul R. Hawley, director of the American College of Surgeons, requested that the Academy suggest three names of ophthalmologists for the consideration of the Board of Regents of the College in filling a vacancy which will occur this year on the Advisory Council for Ophthalmology, and also three names for consideration in filling a similar vacancy on the Advisory Council for Otolaryngology.

The request was tabled.

3. On October 1, Mr. Wilbur G. Anding, sales representative of TWA in their Minneapolis office, proposed four or five TWA tours, New York to Brussels and other European cities, covering the XVIII International Congress of Ophthalmology, September 8 to 12, 1958. Tourist or First Class accommodations including transportation, round trip from New York, hotel accommodations including breakfast for seventeen days: tourist, $875; first class, $1,125. TWA will cooperate with a travel agency of our choice. Dates will be optional to accommodate those who wish to go early or come back later.

TWA will print and distribute circulars describing the cruises and will pay all expenses in connection with promoting the tours. The Academy will in no way be obligated nor will the Academy pay any portion of the expense in promoting the tours.

Dr. Harold Joy moved that the Council accept the plan to facilitate transportation to the XVIII International Congress of Ophthalmology. The motion was seconded by Dr. Schall and carried.

4. A letter from Dr. Frederick Cordes presented a suggestion of the Advisory Council for Ophthalmology of the American College of Surgeons that an Ophthalmic Surgery Day of the American College of Surgeons be set up as a part of the Academy meeting.

A poll was taken of the Council members present, and it was the consensus that the joining of the programs of the two societies would lead to confusion on the part of ophthalmologists and otolaryngologists of the country, and it would not add materially to the scientific program of either society.

Dr. O. E. Van Alyea moved that the Secretary be instructed to so inform the Advisory Council of the American College of Surgeons. The motion was seconded by Dr. Sam Roberts and carried.

5. Letters from Dr. Henry F. Helmholz and Mrs. Rollin Brown of the National Congress of Parents and Teachers, requested that a member of our organization be appointed to its Advisory Committee on Health for the coming year.

Dr. Snydacker moved that the President appoint a member of the Academy to serve on this Advisory Committee. The motion was seconded by Dr. Schall and carried.

6. Dr. Isadore Givner has suggested that the Academy form a standing committee on preventive ophthalmology, whose function would be the collection, evaluation and dissemination of such information garnered from publications throughout the world that is of a nature pertinent to preventive ophthalmology.

It was felt by the members of the Council that the functions of the committee proposed by Dr. Givner might lie within the sphere of the National Committee on Research in Ophthalmology and Blindness, which was formed last year. Dr. Ruedemann was instructed to discuss Dr. Givner's proposal with the other members of his committee and report back to the Wednesday meeting of the Council. He reported on Wednesday that the National Committee on Research in Ophthalmology and Blindness would incorporate in their program the functions outlined by Dr. Givner. He moved that the recommendation of Dr. Givner be referred to the National Committee on Research and that the Executive Secretary apprise Dr. Givner of this action. The motion was seconded by Dr. David Harrington and carried.

7. Correspondence between Dr. Benedict and Dr. Edley Jones, Secretary-Treasurer of the International Association of Secretaries of Ophthalmological and Otolaryngological Societies, was reviewed. It concerned the question

whether the Academy should continue to sponsor this group. At the Wednesday meeting of the Council, Dr. Ruedemann reported that he had met with the Council of the Association and that the Association wished to continue under the sponsorship of the Academy. His recommendation was that sponsorship be continued.

Dr. Roberts made a motion that Dr. Ruedemann's recommendation be accepted. The motion was seconded by Dr. Van Alyea and carried.

8. A letter from Dr. Walter D. Chase suggesting that the Academy have reprints made of an article on glaucoma by Gaylord W. Ojers and Thomas D. Duane, which appeared in the November 1955 issue of Saint Luke's Hospital Bulletin, and send them to all ophthalmologists in the United States was tabled.

9. Letters from New York, Los Angeles, Miami Beach, and Atlantic City inviting the Academy to hold future meetings in these cities were reviewed, and the problem of more long-range planning for the meetings was discussed.

10. The President read a letter from Dr. Marvin Simmons, a member of the Academy, suggesting that the Academy organize a Section on Ophthalmology and a Section on Otolaryngology to hold separate meetings. Dr. Hansen said that he would be strongly opposed to such a plan, and he was instructed to write to Dr. Simmons to this effect.

11. Dr. Ralph Rychener requested that the Medical Foundation for Eye Care be allowed to hold a meeting in the Grand Ballroom on Tuesday noon between sessions. Dr. Joy moved that the Foundation be permitted to meet on Tuesday noon so long as their meeting did not interfere with the scheduled meetings of the Academy. The motion was seconded by Dr. Ruedemann and carried.

VII

New Business

1. Dr. McNally presented to the Council a document prepared by the Research Subcommittee of the Committee on Conservation of Hearing. [Document is on file in Academy office.] It was referred to the Activities Committee for consideration. The recommendation of the Committee was that the plan be accepted and that an appropriation be made to cover the awards. A motion to this effect was made by Dr. Roberts, seconded by Dr. McNally, and carried.

2. Dr. Ruedemann spoke of the need for stimulating interest in our three specialties among students and interns. He suggested that a committee be formed to arrange for the distribution of information about the specialties to students in the medical schools and to interns. It was the consensus of the Council that this proposal falls within the scope of the Teachers' Sections. Dr. Snydacker moved that the Council refer this matter to the Teachers' Sections for action and that a suitable appropriation be made to the Teachers' Sections to facilitate this program. The motion was seconded by Dr. Lierle and carried.

3. A request from the American Orthoptic Council through its report to the Academy Council was referred back to the Council by the Activities Committee with recommendation for its adoption. The Orthoptic Council asked that the Academy name a liaison committee to set up a program for the evaluation of the nonsurgical treatment of strabismus, with financial aid for the committee operations. When sufficient organization and data become available, it was their hope that the Academy would aid in the application for funds from the National Institutes of Health for the completion of a long-term survey.

Dr. Reese moved that the Academy Council cooperate with the American Orthoptic Council in a program for the evaluation of the nonsurgical treatment of strabismus by naming a liaison committee and by the appropriation of funds for committee operations. The motion was seconded by Dr. Joy and carried.

4. Dr. Lierle moved that the Council authorize the formation of a Committee on Surgery of the Head and Neck, with the recommendation that the President appoint Dr. LeRoy Schall as chairman. The motion was seconded by Dr. Furstenberg and carried.

5. The Activities Committee referred to the Council a request of the Committee on Otolaryngic Pathology that the Academy provide financial support for a qualified technician at the Armed Forces Institute of Pathology to process temporal bones. It was pointed out that provision for such aid has already been made, but no application has been made for the position. Dr. Joy moved that the stipend for such a position should be elastic so that it can be arranged according to the rates paid at the institution in which the work is to be done, and that it be left to the discretion of the Finance Committee. The motion was seconded by Dr. Furstenberg and carried.

6. The National Society for the Prevention of Blindness asked for permission to use the name of the Academy as having sanctioned a plan to circularize the ophthalmologists of the United States on the management of low-grade refractive errors in people of all ages,

beginning with preschool children. The cost of the survey is to be arranged by the National Society, which proposes to approach the Titmus Optical Company for a substantial fund for this purpose. When the questionnaire to ophthalmologists is completed, they propose to send a similar questionnaire to all optometrists.

It was the consensus that it would be unwise to grant sanction of this project.

7. The Pan-American Association of Ophthalmology asked for the privilege of holding a meeting on Tuesday night of next year's session similar to the Fiesta they held this year. The request was referred to the Program Committee.

8. Dr. Benedict made the following nominations to the Board of Secretaries for the year 1958:

Secretary for Ophthalmology: Kenneth L. Roper

Secretary for Otolaryngology: Eugene L. Derlacki

Secretary for Instruction in Ophthalmology: A. D. Ruedemann

Secretary for Instruction in Otolaryngology and Maxillofacial Surgery: Dean M. Lierle

Secretary for the Home Study Courses: Daniel Snydacker

Secretary for Public Relations: Glen G. Gibson

These nominations were accepted by general consent.

VIII

Report of the Executive, Research and Finance Committee—Dr. Erling Hansen, Chairman.

1. The Committee recommends that the application fee continue to be $25.00 and that the annual dues for Junior Fellows shall be $20.00; for Senior Fellows, $10.00. The allotment from dues and from application fees for subscriptions to the TRANSACTIONS shall be continued at $7.00.

Dr. Roper moved that this recommendation be accepted. The motion was seconded and carried.

2. The Committee recommends that two Fellows who have been delinquent in the payment of dues for a period of more than three years be dropped from the Academy roster.

Dr. Snydacker moved that this recommendation be accepted. The motion was seconded and carried.

3. The Committee recommends that the following Fellows who have requested inactive status be so classified:

Lambert J. Agin, Battle Creek, Michigan
Walter J. Bristow, Columbia, South Carolina
Aubrey D. Fischer, Washington, D. C.
Louis G. Hoffman, Winter Park, Florida
Alan D. Knisley, Lima, Ohio
Abraham M. Lazar, Chicago, Illinois
Joseph Lentine, Boston, Massachusetts
Samuel J. Lewis, Augusta, Georgia
Harold Liggett, Flushing, New York
Arthur W. Loy, Grandview, Tennessee
Harry K. Messenger, Boston, Massachusetts
Alexander Moshinsky, New York, New York
Thomas V. Murto, Trenton, New Jersey
J. Norman Reeves, Western Port, Maryland
Russell H. Strange, Mt. Pleasant, Michigan
Kurt Tschiassny, Cincinnati, Ohio
Emmus G. Twitchell, Burlington, Vermont
O. L. Veach, Sheridan, Wyoming
Pierre Paul Viole, Los Angeles, California
Frank E. Wilson, New London, Connecticut

The Committee recommends further that two Fellows who have requested inactive status but who are delinquent in the payment of dues for 1956 and 1957, be notified that they may be granted inactive status only when payment of delinquent dues has put them in good standing.

Dr. Joy moved that the recommendations of the Committee be accepted. The motion was seconded by Dr. Schall and carried.

4. The Committee recommends that the resignations of the following Fellows be accepted:

Channing Ward Hale, Pomona, California
Cornelius T. McCarthy, Wynnewood, Pennsylvania

The recommendation of the Committee was accepted by general consent.

5. The Committee recommends that Associate Fellowship be granted the following men, contingent upon acceptance of the proposed amendment to the Constitution by the Annual Business Meeting:

Jack Copeland, Chicago, Illinois
Merle Lawrence, Ann Arbor, Michigan
Lorenz E. Zimmerman, Washington, D. C.

It was further recommended that three men be informed that their applications for Associate Fellowship were rejected by the Council, but that the Council will be pleased to consider an application for Junior Fellowship if it is submitted.

Dr. Roper moved that the recommendations of the Committee be accepted. The motion was seconded by Dr. Derlacki and carried.

6. The Committee recommends the following appointments:

As Chairmen to Standing and Joint Committees for the year 1958:

To the Committee on Audio-Visual Education, Dr. Dean M. Lierle

To the Committee on Conservation of Hearing, Dr. Dean M. Lierle

To the Committee on Evaluation of the Nonsurgical Treatment of Strabismus, Dr. Daniel Snydacker

To the Committee on Implants and Implant Techniques, Dr. A. D. Ruedemann

To the Committee on Ophthalmic Pathology, Dr. Michael J. Hogan

To the Committee on Otolaryngic Pathology, Dr. Paul H. Holinger

To the Committee on Pan-American Relations in Ophthalmology, Dr. Conrad Berens

To the Committee on Pan-American Relations in Otolaryngology, Dr. C. L. Jackson. With the following members of the Committee: Dr. Victor R. Alfaro, Dr. Norton Canfield, Dr. John Marquis Converse, Dr. Jose Conrad Gros, Dr. Paul H. Holinger, Dr. Howard P. House, Dr. Carlos Munos-MacCormick, Dr. William J. McNally, Dr. LeRoy A. Schall, Dr. Theodore E. Walsh

To the Committee on Reconstructive Plastic Surgery (formerly the Committee on Plastic and Reconstructive Surgery), Dr. John Marquis Converse and Dr. Wendell L. Hughes

To the Committee on Scientific Exhibit, Dr. Kenneth L. Roper and Dr. Eugene L. Derlacki

To the Committee on Standardization of Tonometers, Dr. Peter C. Kronfeld

To the Committee on Surgery of the Head and Neck, Dr. LeRoy A. Schall

To the Teachers' Section: Otolaryngology, Dr. James Maxwell

To the Teachers' Section: Ophthalmology, Dr. A. D. Ruedemann

To the Committee on Use of Diagnostic Procedures and Therapy in Uveitis, Dr. A. D. Ruedemann. With the following members of the Committee: Dr. Michael J. Hogan, Dr. Alson E. Braley, Dr. David Cogan, Dr. Bernard Becker, Dr. A. E. Maumenee, Dr. Irving H. Leopold, and Dr. Frank W. Newell

As representatives of the Academy to:

American Association for the Advancement of Science, Dr. M. Elliott Randolph

American Board of Ophthalmology, Dr. Kenneth C. Swan, for a four-year term beginning January 1, 1958

American Board of Otolaryngology, Dr. Francis E. LeJeune and Dr. George F. Reed

American College of Surgeons Board of Governors, Dr. Shirley Harold Baron, Dr. James A. Moore, and Dr. Jerome Hilger, nominees. These three names will be presented to the College, which will appoint one for a three-year term ending in 1961.

American Committee on Optics and Visual Physiology, Dr. Kenneth C. Swan, for a three-year term beginning January 1, 1958

American Orthoptic Council, Dr. John W. Henderson (Ann Arbor), for a three-year term beginning January 1, 1958

American Standards Association, Committee for Standardization of Ophthalmic Lenses, Dr. Carl J. Rudolph and Dr. Arthur C. Linksz

American Standards Association, Acoustical Standards Board, Dr. Edmund P. Fowler, Jr.

Joint Committee on Eye Banks, Dr. Alson Braley and Dr. John Harry King, Jr.

National Committee on Research in Ophthalmology and Blindness, Dr. Bernard Becker and Dr. A. E. Maumenee

National Congress of Parents and Teachers, Dr. Frank D. Costenbader

National Society for Crippled Children and Adults, Inc., Dr. Dean M. Lierle

Dr. Van Alyea moved that the recommendations of the Committee be accepted. The motion was seconded by Dr. Byrnes and carried.

7. The Committee recommends the nomination of Dr. William L. Benedict as Editor-in-Chief of the TRANSACTIONS.

A motion to approve the recommendation was seconded and carried.

8. The Committee recommends that the next annual meeting of the Academy be held October 12 to 17, 1958, at the Palmer House in Chicago.

The recommendation was approved by Council vote.

9. The Committee recommends the following appropriations for the calendar year 1958.

To the Committee on Conservation of Hearing, a sum not to exceed $19,500; $7,500 of this to be earmarked for the Subcommittee on Noise in Industry for educational purposes, and an appropriate amount to be earmarked for awards for research in otolaryngology.

To the Committee for Evaluation of the Nonsurgical Treatment of Strabismus, a sum not to exceed $500.

To the Committee on Ophthalmic Pathology, $5,000.

To the Committee on Standardization of Tonometers, $1,000.

To the Teachers' Sections, a sum not to exceed $500.

To the American Committee on Optics and Visual Physiology, $200.

To the American Orthoptic Council, $200.

To the National Committee on Research in Ophthalmology and Blindness, $500.

To the International Federation of Ophthalmological Societies, $300.

To the National Society for Medical Research, $1,000.

Dr. Roper moved that the recommendations of the Council be approved. The motion was seconded by Dr. Derlacki and carried.

A motion was made to accept the report of the Committee as a whole. The motion was put to a vote and carried.

IX

Report of the Activities Committee—Dr. Sam Roberts, Chairman.

Reports of the following committees were reviewed and approved by the Committee:

Committee on Audio-Visual Education

Committee on Conservation of Hearing, with recommendation that the Council approve the Guide for Conservation of Hearing in Industry

Committee on Implants and Implant Techniques

Committee on Ophthalmic Pathology

Committee on Otolaryngic Pathology

Committee on Pan-American Relations in Ophthalmology

Committee on Standardization of Tonometers

The Committee recommends that the Council instruct the Executive Secretary to send a letter to Dr. Hugh Grady on the occasion of his resignation as Director of the American Registry of Pathology in the Armed Forces Institute of Pathology, thanking him for the many services to the Academy and to the Committees of Ophthalmic and Otolaryngic Pathology.

No report was received from the Committee on Pan-American Relations in Otolaryngology.

The following reports from representatives of the Academy to other organizations and to Joint Committees were reviewed and approved:

American Association for the Advancement of Science

American Board of Ophthalmology

American College of Surgeons, Board of Governors

American Committee on Optics and Visual Physiology

American Orthoptic Council

American Standards Association, Committee for Standardization of Ophthalmic Lenses

American Standards Association, Acoustical Standards Board

Joint Committee on Eye Banks

National Committee on Research in Ophthalmology and Blindness

No report was received from the American Board of Otolaryngology.

Dr. Roberts moved that the report of the Committee be accepted. The motion was seconded by Dr. Clerf and carried.

X

Report of the Board of Councillors—Dr. Sam Roberts, Chairman.

1. The Board of Councillors recommends that 296 candidates who have fulfilled the requirements for membership be accepted for Fellowship in the Academy.

Two candidates were deferred until 1958 because each in some respect had not yet fulfilled the requirements for membership.

Dr. Roberts moved that the recommendations of the Board of Councillors be accepted. The motion was seconded by Dr. Snydacker and carried.

2. The Board of Councillors nominates the following officers for the year 1958:

President: Dr. LeRoy A. Schall, Boston

President-Elect: Dr. John H. Dunnington, New York

First Vice-President: Dr. F. Bruce Fralick, Ann Arbor, Michigan

Second Vice-President: Dr. David D. De-Weese, Portland, Oregon

Third Vice-President: Dr. Philip M. Lewis, Memphis, Tennessee

Councillor: Dr. Victor Goodhill, Los Angeles, California

Executive Secretary-Treasurer: Dr. William L. Benedict, Rochester, Minnesota

It was moved that the nominations of the Board of Councillors to offices in the Academy be accepted. The motion was seconded and carried.

Dr. Roberts moved that the entire report of the Board of Councillors be accepted. The motion was seconded by Dr. Clerf and carried.

Since no further business was brought before the Council, the meeting adjourned *sine die*.

ANNUAL BUSINESS MEETING

The business meeting of the Sixty-Second Annual Session of the American Academy of Ophthalmology and Otolaryngology, held in the Palmer House, Chicago, Illinois, Thursday afternoon, October 17, 1957, convened at 5:30 o'clock, Dr. Erling W. Hansen, President of the Academy, presiding.

PRESIDENT HANSEN: The meeting will please come to order.

The first item on the agenda is the report of the Executive Secretary, Dr. William L. Benedict.

Report of the Executive Secretary:

The Secretary's report is condensed. Further detailed information is available.

The fellowship as of January 1, 1957, which is our fiscal year:

Junior Fellows	5,377
Senior Fellows	410
Life Fellows	459
Honorary Fellows	33
Inactive Fellows	103
Total Fellows	6,382

There are 296 candidates to be considered at this meeting who have been approved by the Council.

On January 1, 1957, 72 fellows were elevated to senior fellowship; 49 fellows were elevated to life fellowship. One hundred deaths have been reported since the last meeting. Two resignations have been accepted; 19 Fellows have been reclassified as inactive; and 2 have been dropped for nonpayment of dues.

Mr. President, I move the acceptance of this portion of the report.

The motion was seconded by Dr. Kenneth L. Roper and carried.

PRESIDENT HANSEN: We will have next the report of the Treasurer, Dr. Benedict.

Report of the Treasurer:

The certified accountant's audit of the affairs of the Academy as of December 31, 1956, was published in the May-June 1957 issue of the TRANSACTIONS. It is a rather lengthy report, and inasmuch as it has been published, I question whether you want to hear this report in detail.

PRESIDENT HANSEN: What is your pleasure?

Dr. Roper moved that the report be accepted as published. The motion was seconded by Dr. Louis H. Clerf and carried.

PRESIDENT HANSEN: Next is the report of the Senior Member of the Council. Dr. Walter Theobald is in Europe. His report will be read by Dr. Algernon Reese.

Report of the Senior Member of the Council:

Mr. President and Members of the Academy: The Council has received and approved the reports of the Executive Secretary-Treasurer, the Editor of the TRANSACTIONS, the Council Committees, and joint and standing committees. These reports will be published in the November-December 1957 issue of the TRANSACTIONS.

The Council recommends that the application fee for fellowship in the Academy shall remain at $25.00; the annual dues for Junior Fellows at $20.00; for Senior Fellows at $10.00.

Mr. President, I move the adoption of this recommendation.

The motion was seconded by Dr. Carroll R. Mullen and carried.

The Council recommends the following appropriations for the year 1958:

To the Committee on Conservation of Hearing, a sum not to exceed $19,500; $7,500 of this to be earmarked for the Subcommittee on Noise in Industry for educational purposes, and an appropriate amount to be earmarked for awards for research in otolaryngology.

To the Committee for Evaluation of the Nonsurgical Treatment of Strabismus, a sum not to exceed $500.00.

To the Committee on Ophthalmic Pathology, $5,000.

To the Committee on Standardization of Tonometers, $1,000.00.

To the Teachers' Sections, a sum not to exceed $500.00.

To the American Committee on Optics and Visual Physiology, $200.00.

To the American Orthoptic Council, $200.00.

To the National Committee on Research in Ophthalmology and Blindness, $500.00.

To the International Federation of Ophthalmological Societies, $300.00.

To the National Society for Medical Research, $1,000.

Mr. President, I move the adoption of these recommendations.

The motion was seconded by Dr. Victor A. Byrnes and carried.

The Council recommends the following appointments:

As chairmen to standing and joint committees for the year 1958:

To the Committee on Audio-Visual Education, Dr. Dean M. Lierle

To the Committee on Conservation of Hearing, Dr. Dean M. Lierle

To the Committee on Implants and Implant Techniques, Dr. A. D. Ruedemann

To the Committee on Ophthalmic Pathology, Dr. Michael J. Hogan

To the Committee on Otolaryngic Pathology, Dr. Paul H. Holinger

To the Committee on Pan-American Relations in Ophthalmology, Dr. Conrad Berens

To the Committee on Pan-American Relations in Otolaryngology, Dr. C. L. Jackson. With the following members of the Committee: Dr. Victor R. Alfaro, Dr. Norton Canfield, Dr. John Marquis Converse, Dr. Jose Conrad Gros, Dr. Paul H. Holinger, Dr. Howard P. House, Dr. Carlos Munos-MacCormick, Dr. William J. McNally, Dr. LeRoy A. Schall, Dr. Theodore E. Walsh

To the Committee on Reconstructive Plastic Surgery, Dr. John M. Converse and Dr. Wendell L. Hughes

To the Committee on Scientific Exhibit, Dr. Kenneth L. Roper and Dr. Eugene L. Derlacki

To the Committee on Standardization of Tonometers, Dr. Peter C. Kronfeld

To the Teachers' Section: Otolaryngology, Dr. James Maxwell

To the Teachers' Section: Ophthalmology, Dr. A. D. Ruedemann

To the Committee on Use of Diagnostic Procedures and Therapy in Uveitis, Dr. A. D. Ruedemann. With the following members of the committee: Dr. Michael J. Hogan, Dr. Alson E. Braley, Dr. David Cogan, Dr. Bernard Becker, Dr. A. E. Maumenee, Dr. Irving H. Leopold, and Dr. Frank W. Newell

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American Standards Association, Acoustical Standards Board, Dr. Edmund P. Fowler, Jr.

Joint Committee on Eye Banks, Dr. Alson Braley and Dr. John Harry King, Jr.

National Committee on Research in Ophthalmology and Blindness, Dr. Bernard Becker and Dr. A. E. Maumenee

National Congress of Parents and Teachers, Dr. Frank D. Costenbader

National Society for Crippled Children and Adults, Inc., Dr. Dean M. Lierle

The Council also recommends formation of a Committee on Evaluation of the Nonsurgical Treatment of Strabismus, to serve as a liaison with the American Orthoptic Council in setting up a program of research, with Dr. Daniel Snydacker, Chairman.

Mr. President, I move the adoption of these recommendations.

The motion was seconded by Dr. Mullen and carried.

The Council recommends the appointment of Dr. William L. Benedict as Editor-in-Chief of the TRANSACTIONS.

Mr. President, I move the adoption of this recommendation.

The motion was seconded by Dr. Daniel Snydacker and carried.

The Council nominates for active fellowship the 296 candidates whose names appear on the sheet handed you as you entered the room.

Mr. President, I move that we accept the nominations of the Council.

The motion was seconded by Dr. Roper and carried.

Newly Elected Fellows of the Academy:

Adams, Leon Ashby, Medical Arts Bldg., Princeton, N. J., ALR

Alexander, Benjamin, 1538 Sherbrooke St. West, Montreal, Que., Canada, OP

Allain, Donald, 139 Lincoln St., Framingham, Mass., OP

Anderman, David Albert, 414 Miller Ave., Brooklyn 7, N. Y., OP

Anderson, Paul Drake, 1707 Main St., La Crosse, Wis., OP

Angiuoli, Domenic N., 304 Central Ave., Orange, N. J., OP

Antle, Robert C., Jones E.E.N.T. Hospital, Johnson City, Tenn., OP

Apter, Julia T., 7135 S. Jeffery Ave., Chicago 49, Ill., OP

Aronstam, Robert H., U. S. Public Health Service Hospital, 77 Warren St., Boston, Mass., OP

Arstikaitis, J. Maria, 345 Bloor St. West, Toronto, Ont., Canada, OP

Asbury, Taylor, 718 Carew Tower, Cincinnati 2, Ohio, OP

Baird, Ronald Pierce, 245 Frederick St., Kitchener, Ont., Canada, OP

Ballenberger, Louis Porter, U. S. Naval Hospital, Chelsea 50, Mass., ALR

Barnes, Charles Keith, Neil P. Anderson Bldg., Fort Worth, Texas, OP

Basek, Milos, 180 Fort Washington Ave., New York 32, N. Y., ALR

Batungbacal, Ramon T., 1455 Pennsylvania Ave., Manila, The Philippines, OP

Baumgartner, Wilbur Whittler, 118 N. Chestnut St., Kewanee, Ill., OP

Bedrick, Morton, 154 Broad St., New London, Conn., OP

Bellet, Jerome, 538 E. 29th St., Paterson 4, N. J., OP

Benoit, Clair F., 385 River Ave., Winnipeg 13, Man., Canada, OP

Berry, A. Erwin, 4½ W. Charles St., Oelwein, Iowa, OP

Berry, Jack J., 2010 E. 102nd St., Cleveland 6, Ohio, OP

Bialik, Michael H., 14853 Michigan Ave., Dearborn, Mich., OP

Billman, Howard George, 320 G St., Marysville, Calif., ALR

Blackburn, Edward Albert, Jr., 1304 Walker Ave., Houston 2, Texas, ALR

Bobb, Arthur Alfred, Jr., 346 N. Fifth St., Reading, Pa., OP

Bode, Frederick William, Jr., 516 Oliver Bldg., Pittsburgh 22, Pa., ALR

Boruchoff, S. Arthur, 192 Bay State Rd., Boston 15, Mass., OP

Boyaner, Don, 5757 Decelles Ave., Montreal 26, Que., Canada, OP

Braunstein, Edgar Gerard, 1009 79th St., North Bergen, N. J., OP

Breakstone, Gerald Joseph, 523 W. Sixth St., Los Angeles 14, Calif., OP

Brewer, Alexander L., 2801 N. 29th Ave., Birmingham 7, Ala., OP

Brewer, Ray Larry, 6800 Long Point, Houston 24, Texas, OP

Brophy, John William, 505 Arlington Ave., Reno, Nev., ALR

Bruce, Robert Grady, 8130 Santa Clara Dr., Dallas, Texas, ALR

Bryce, Michael Robert, 330 E. 70th St., New York 21, N. Y., ALR

Burnett, Arthur B., 106 N. Main St., New Castle, Ind., OP

Burns, Robert Patrick, 635 W. 165th St., New York 32, N. Y., OP

Buten, Robert E., 1001 York St., Newport, Ky., OP

Button, Richard R., 318 N. Newport Blvd., Newport Beach, Calif., OP

Byerly, Baxter Hayes, North Carolina Memorial Hospital, Chapel Hill, N. C., OP

Campbell, John Roy, 1342 Medical-Dental Bldg., Seattle 1, Wash., OP

Carbajal, Ulysses Mejia, 635 S. Westlake Ave., Los Angeles 57, Calif., OP

Carlisle, Joseph Robert, 400 29th St., Oakland 9, Calif., OP

Carlson, Frederick B., U. S. Naval Hospital, Newport, R. I., OP

Carney, John Lackie Patrick, 1162 Medical-Dental Bldg., Seattle 1, Wash., ALR

Castro, Amos John, Jr., 384 Post St., San Francisco 8, Calif., ALR

Chatzinoff, Albert Bernard, 2035 Lakeville Rd., New Hyde Park, L. I., N. Y., OP

Chodosh, Paul Lowell, 230 W. Jersey St., Elizabeth, N. J., ALR

Cibis, Paul Anton, 640 S. Kingshighway, St. Louis 10, Mo., OP

Clopton, James William, 213 N. Pomona Ave., Fullerton, Calif., ALR

Copps, James M., 131 S. Barstow St., Eau Claire, Wis., OP

Cordero-Moreno, Rafael, Policlinica Barquisimeto, Barquisimeto, Venezuela, OP

Covell, Lester Laurence, 358 Commonwealth Ave., Boston 15, Mass., OP

Crockett, Douglas Harman, U. S. Public Health Service Hospital, Norfolk 8, Va., OP

Croffead, George S., 149 Wentworth St., Charleston, S. C., OP
Cross, Junius Bracy, Boyle Bldg., Fifth and Main, Little Rock, Ark., OP
Cunningham, John David, 3400 Spruce St., Philadelphia 4, Pa., ALR
Curcio, Michael, 320 N. 63rd St., Philadelphia 39, Pa., OP
Cury, Dahar, Jr., 2665 Walnut St., Huntington Park, Calif., OP
Cyphers, Charles Dougal, 506 W. Faulkner, El Dorado, Ark., ALR

Davis, Matthew Dinsdale, 224 W. Washington Ave., Madison 3, Wis., OP
de la Cruz, Edgar, P. O. Box 4266, San Jose, Costa Rica, OP
Denny, Lorin Wayne, 140 E. Poplar Ave., San Mateo, Calif., OP
Diab, Alfred Edward, American University of Beirut Hospitals, Beirut, Lebanon, OALR
Doctor, Daniel W., 30 W. 59th St., New York 19, N. Y., OP
Donald, Russell A., 2014 Tulare, Fresno 21, Calif., OP
Donovan, Bernard Frank, 277 Alexander St., Rochester 7, N. Y., OP
Drumheller, George Henry, 1719 Hewitt, Everett, Wash., ALR
Duke, James R., Wilmer Institute, Johns Hopkins Hospital, Baltimore 5, Md., OP
Duncan, James A., 280 Mamaroneck Ave., White Plains, N. Y., OP
Dyer, John Allen, 200 First St. S. W., Rochester, Minn., OP

Edgar, Erwood George, 12462 Brookhurst, Garden Grove, Calif., OP
Edwards, Thomas S., 17 E. 72nd St., New York 21, N. Y., OP
Eisenhauer, Robert Dale, 220 Engle St., Englewood, N. J., OP
Ejercito, Napoleon Campos, 1450 Union St., Paco, Manila, The Philippines, ALR
Elder, Orr Jay, 440 S. Harrison St., East Orange, N. J., OP
Erdbrink, Wayne Lang, Tripler Army Hospital, APO 438, San Francisco, Calif., OP

Fainstein, Saul Ben, 2453A Bloor St. West, Toronto 9, Ont., Canada, OP
Farrant, Floyd Howard, 22 Plymouth St., Montclair, N. J., OP
Fethke, Norbert, 54 Church St., Amsterdam, N. Y., OP
Fink, Robert John, 1921 Medical Arts Bldg., Minneapolis 2, Minn., OP
Fish, John Henry, 616 Permian Bldg., Big Spring, Texas, OP
Fletcher, Mary Critz, 906 Medical Towers, Houston 25, Texas, OP
Flom, Leonard, 70 Reef Rd., Fairfield, Conn., OP
Fogle, Richard J., 312 Seventh St., Racine, Wis., ALR
Foss, Robert Harvey, 305 E. Walnut St., Green Bay, Wis., OP
Fountain, Newland William, 400 N. Main St., Warsaw, N. Y., OP
Fox, Francis Harry, 1545 Addison Ave. East, Twin Falls, Idaho, OP
Frenkel, Henry Hans, 144 Golden Hill St., Bridgeport 3, Conn., OP
Frisch, Michael Ronald, Wadsworth General Hospital, Los Angeles 25, Calif., OP
Fusco, John A., 9210 Colima Rd., Whittier, Calif., OP

Gaddy, George Douglas, 205 Bailey Coble Bldg., Burlington, N. C., OP
Garabedian, Vahe, 108 Oak St., Binghamton, N. Y., OP
Gaulton, Gordon Charles, 27 Leinster St., Saint John, N. B., Canada, ALR
Gibbins, George W., Medical Arts Bldg., Anniston, Ala., OP
Gill, John Ellis, U. S. Naval Hospital, Charleston, S. C., OP
Gill, Theodore M., 310 Medical Arts Bldg., Albert Lea, Minn., OP
Glenn, Leland Kirk, 2275 McGregor Blvd., Fort Myers, Fla., OP
Gocke, John Thomas, 403 Prunty Bldg., Clarksburg, W. Va., OP
Goss, Vernon Victor, 908 Hospital Dr., Tyler, Texas, OP
Gregg, Lester O., 510 Dollar Bank Bldg., Youngstown 3, Ohio, ALR
Grindle, Lincoln, 332 Marigold Ave., Corona Del Mar, Calif., OP
Guertin, Paul Leon, 837 Cherrier St., Montreal, Que., Canada, ALR

Hamel, John Kenneth, 408 Westminster Ave., Newport Beach, Calif., ALR
Hansen, Alma Kelsch, 45 N. Tucson Blvd., Tucson, Ariz., OP
Harding, Robert LeGrande, 2201 N. Second St., Harrisburg, Pa., PlS
Harrington, James Lyle, 234 Rexford Pl., Watertown, N. Y., OP
Harrison, Lloyd Bratton, Jr., 1109 Harrison Ave., Panama City, Fla., ALR
Hart, Edward Elmer, 330 W. Buffalo St., Ithaca, N. Y., OP
Hart, James Coleman, Fifth and Walnut Sts., Murray, Ky., OP

Haseltine, Charles Patrick, 2 W. Fern Ave., Redlands, Calif., OP
Hedges, Charles C., Jr., 1177 Montgomery Dr., Santa Rosa, Calif., OP
Herbert, Edna Eva, Panama, Iowa (temporary), OP
Herm, Robert James, 740 Main St., Waltham 54, Mass., OP
Hildebrand, William, 80 Delaware Rd., Kenmore 17, N. Y., ALR
Hirsch, Lee, 130 Maple St., Springfield 5, Mass., OP
Hobart, Seth Guilford, Jr., Professional Bldg., 1200 Broad St., Durham, N. C., ALR
Hobbs, Frank Imboden, 506 Church St., Lynchburg, Va., OP
Holt, Robert Glenn, 327 Chestnut St., Halstead, Kan., OP
Hootman, J. Kenneth, 633 Washington Rd., Pittsburgh 28, Pa., OP
House, William Fouts, 1136 W. Sixth St., Los Angeles 17, Calif., ALR
Howard, John C., 202 E. Liberty St., Savannah, Ga., ALR
Hyman, Barnett Morton, First Federal Savings and Loan Bldg., Beaumont, Texas, ALR

Insley, Marion C., Jr., 1117 N. Second St., Harrisburg, Pa., ALR
Irving, John Arthur, 3195 Granville St., Vancouver 9, B. C., Canada, OP

Jacks, Quentin Douglas, 736 Granville St., Vancouver 2, B. C., Canada, ALR
Jaffe, Charles Raymond, 2128 Ocean Ave., Brooklyn 29, N. Y., OP
Jimenez, Timoteo, Louisiana State University School of Medicine, New Orleans 12, La., OP
Johnston, Theodore Leigh, 204 E. Fourth Ave., Cheyenne, Wyo., OP
Julien, Paul Etienne, 794, 5e rue, ch 115, Shawinigan Falls, Que., Canada, OALR
Juska, Aldona Ann, 2422 W. Marquette Rd., Chicago 29, Ill., OP

Kapur, Yash Pal, 136 Hampstead Rd., Brislington, Bristol 4, England, ALR
Kazdan, Philip, 10515 Carnegie Ave., Cleveland 6, Ohio, OP
Kerns, Thomas Cleveland, Jr., 110 Main St., Durham, N. C., OP
King, Robert Lee, Jr., U. S. Naval Hospital, Great Lakes, Ill., ALR
King, Robert Wallace, 505 Osler Bldg., 1200 N. Walker, Oklahoma City 3, Okla., OP
Klotz, Jeremiah Alexander, Jr., 905 Wainwright Bldg., Norfolk 10, Va., OP
Koenig, Harry, Nester Block, Marquette, Mich., OP
Kohl, Darwin Louis, 119A Main St. South, Minot, N. D., OP
Kolson, Harry, Veterans Administration Hospital, 130 W. Kingsbridge Rd., Bronx 68, N. Y., ALR
Koppel, Zoltan I., 105 E. 63rd St., New York 21, N. Y., OP
Kresca, Frank J., 206 N. Randolph St., Champaign, Ill., OP

Laschever, Eleazer Frederick, Medical Arts Bldg., Princeton, N. J., OP
Leavelle, Robert Bryan, 4747 Vineland Ave., North Hollywood, Calif., OP
Leight, Harold Charles, 809 Republic Bldg., Denver 2, Colo., OP
Levine, Oscar, 1451 N. E. Bayshore Dr., Miami 32, Fla., OP
Lieurance, Richard Edward, U. S. Naval Hospital, Jacksonville 12, Fla., OP
Lilly, Milton J., Jr., 1106 Virginia St., Charleston, W. Va., OP
Lindeke, Harold Irving, 1930 Wilshire Blvd., Los Angeles 57, Calif., OP
Liva, Edward Louis, 300 Franklin Ave., Ridgewood, N. J., OP
London, Merritt Evan, 55 Union St., Red Bank, N. J., OP
Lu, Cheng-en, Students Health Service, University of Minnesota, Minneapolis 14, Minn., ALR
Lyon, James M., 2045 Jefferson St., Napa, Calif., OP

MacDonald, James Harold, 14463 Malabar Crescent, White Rock, B.C., Canada, OP
Macdonald, Roderick, Jr., Dept. of Ophthalmology, University of Louisville, 323 E. Chestnut St., Louisville 2, Ky., OP
Magee, George Richard, 15 E. First St., Reno, Nev., OP
Malinoski, Mitchell Valentine, Veterans Administration Hospital, Poplar Bluff, Mo., ALR
Maness, Edward Stewart, 801 Sharp Bldg., Lincoln 8, Neb., ALR
Marchand, Leopold, 32 Boulevard St. Joseph West, Montreal 14, Que., Canada, ALR
Marron, James William, Prudential Bldg., Chicago 1, Ill., OP
Mazzola, Stephen, 882 Reibold Bldg., Dayton 2, Ohio, ALR

McCarty, William Mason, 493 Fulton St., Troy, N. Y., OP

McDaniel, Donald Wiley, 308 E. Fourth St., The Dalles, Ore., OP

McFadden, Robert Lee, De Puy-Sorkness Clinic, Jamestown, N. D., ALR

McFarlane, Donald Cecil, 382 Queens Ave., London, Ont., Canada, OP

McIntire, Waldean Chester, 3610 Dodge St., Omaha, Neb., OP

McLean, Walter Copley, 104 E. Market St., Charlottesville, Va., ALR

McPherson, Alice Ruth, Massachusetts Eye & Ear Infirmary, 243 Charles St., Boston 14, Mass., OP

McReynolds, William Uriel, 1101 Maine St., Quincy, Ill., OP

McVeigh, James Franklin, 218 State Tower Bldg., Syracuse 2, N. Y., OP

Mendelson, Jack, 203 Boyd Bldg., Winnipeg, Man., Canada, OP

Merklin, Lewis, 255 S. 17th St., Philadelphia 3, Pa., ALR

Metson, Bates Francis, 14435 Hamlin St., Van Nuys, Calif., ALR

Meyers, Edward Augustine, 216 Engle St., Englewood, N. J., ALR

Michler, Raymond Robert, 426 Webber St., Napa, Calif., OP

Miller, Edwin Morton, 81 Main St., Newton, N. J., OP

Miller, Wade Hampton, 1416 Professional Bldg., Kansas City 6, Mo., OP

Moorman, John Dement, Medical Arts Bldg., Huntsville, Ala., OP

Mueller, Emma Clara, 9985 Sierra Ave., Fontana, Calif., OP

Murphy, Leo J., 102 N. Clinton St., Olean, N. Y., OP

Neely, Robert Allen, 22 N. Bell, Bellville, Texas, OP

Nelson, Bentley A., U. S. Naval Hospital, Camp Lejeune, N. C., ALR

Nelson, Robert C., 1902 Union Central Bldg., Cincinnati 2, Ohio, OP

Noguera, Julio T., 601 Grand Ave., Asbury Park, N. J., ALR

Ostler, Howard Bruce, 20 E. Third North St., Provo, Utah, OP

Parke, David William, 69 E. Main St., Meriden, Conn., OP

Patterson, Reese W., Jr., 406 W. Church St., Knoxville, Tenn., OP

Patterson, Walter, U. S. Naval Hospital, Bethesda, Md., OP

Paul, James Mackay, 8790 W. Colfax Ave., Denver 15, Colo., ALR

Peebles, Charles Henry, Jr., 1673 Brabham Ave., Columbia, S. C., OP

Peterson, Donald Arvid, 110 E. Main St., Madison 3, Wis., OP

Petty, Robert William, 33 E. Second South St., Provo, Utah, OP

Pfeifer, Robert H., 808 N. E. 20th Ave., Fort Lauderdale, Fla., OP

Pickens, James L., 1052 W. Walnut St., Rogers, Ark., ALR

Pickett, William Edward, 644 Madison Ave., Albany, N. Y., OP

Pinkham, Raymond Arthur, 316 Henrietta St., Kalamazoo, Mich., OP

Pistolas, Nicholas George, 2828 Connecticut Ave. N. W., Washington 8, D. C., OP

Platt, John W., 258 Genesee St., Utica 2, N. Y., ALR

Pollak, Kurt, 412 Union St. S. E., Minneapolis 14, Minn., ALR

Poore, John Chapman, 850 Middlefield Rd., Palo Alto, Calif., OP

Posner, Marvin, 371 State St., Albany 10, N. Y., OP

Prater, Bill George, 223 Professional Bldg., Springfield 4, Mo., OP

Pugh, George B., 24 Wick Ave., Youngstown 3, Ohio, OP

Purnell, James E., 872 Fifth Ave., New York 21, N. Y., OP

Quigley, John H., 313 Spring Garden Rd., Halifax, N. S., Canada, OP

Ragan, John Dennis, 220-736 Granville St., Vancouver 2, B. C., Canada, OP

Raphael, Sylvan, 1329½ A St., Hayward, Calif., OP

Rees, Donald Leslie, 303 Medical Arts Bldg., Edmonton, Alta., Canada, OP

Rex, Earl G., 420 S. Glendora, West Covina, Calif., OP

Richter, William Curtis, S. 820 McClellan St., Spokane 4, Wash., OP

Roach, George Samuel, Jr., 144 Ponce de Leon Ave. N. E., Atlanta 8, Ga., ALR

Rock, Frederick, 3500 Fifth Ave., Pittsburgh 13, Pa., OP

Rodin, Max, 8721 La Tijera Blvd., Los Angeles 45, Calif., OP

Rodriguez, Alvaro, Calle 15 No. 15-45, Apt. 302, Bogota, Colombia, OP

Rosenblatt, Monroe N., 140 Lockwood Ave., New Rochelle, N. Y., OP

Rosenthal, Morton L., 41 Eastern Pkwy., Brooklyn 38, N. Y., OP

Rowen, Gerald Eugene, Box 569, Miles City, Mont., OP

Rummel, William David, 845 Eighth St. N. E., Massillon, Ohio, OP

Samson, Clarence Lofton Martin, 1206 Pere Marquette Bldg., New Orleans 12, La., OP

Saul, Robert Warren. 520 Medical Arts Bldg., Pittsburgh 13, Pa., OP

Schaeffer, Alexander John, 6317 Wilshire Blvd., Los Angeles 48, Calif., OP

Schalmo, Edwin Henry, 1729 S. 11th St., Milwaukee 4, Wis., OP

Schane, David, 20211 Greenfield, Detroit 35, Mich., OP

Scheidt, John E., 536 W. Commonwealth, Fullerton, Calif., OP

Schiff, Frank S., 1237 E. Main St., Alhambra, Calif., OP

Schofman, Manuel A., 9526 N. E. Second Ave., Miami Shores, Fla., ALR

Schwartz, Bernard, University Hospitals, Iowa City, Iowa, OP

Seiff, Stephen S., 435 N. Bedford Dr., Beverly Hills, Calif., OP

Seltsam, Jack Harold, University of California Medical Center, Los Angeles 24, Calif., ALR

Shaner, Harold Jack, 417 E. Robinson Ave., Orlando, Fla., OP

Shannon, Charles Richard, 2701 Eye St., Sacramento 16, Calif., OP

Shannon, Gerard M., 1434 E. Huntingpark Ave., Philadelphia 24, Pa., OP

Shapiro, Edward, 142 Joralemon St., Brooklyn 1, N. Y., ALR

Shapiro, Irving, 1750 Medical Arts Bldg., Minneapolis 2, Minn., OP

Sheehy, James Luhn, 98th General Hospital, APO 34, New York, N. Y., ALR

Siegel, Morton T., 109 E. Italia St., Covina, Calif., OP

Silverstein, Arthur L., 16 Crescent Ave., Passaic, N. J., OP

Singer, Roy Richard, 35-19 Fair Lawn Ave., Fair Lawn, N. J., OP

Sivulich, Michael J., 406 Main St., Johnstown, Pa., OP

Smith, Clarence Girard, 222 Osborn Medical Bldg., Cleveland 15, Ohio, OP

Smith, Dale Compton, 231 W. 47th St., Kansas City 12, Mo., OP

Smith, Ronald Perry, 7 N. Catherine St., Plattsburgh, N. Y., OP

Snyder, Alan A., 490 Post St., San Francisco 2, Calif., OP

Solomon, Yale, 375 E. Main St., Bay Shore, N. Y., OP

Sorenson, Lionel Winton, 2999 Regent, Berkeley 5, Calif., OP

Spaeth, Philip George, 1930 Chestnut St., Philadelphia 3, Pa., OP

Spencer, Robert Walter, 312 Medical Arts Bldg., Tulsa, Okla., OP

Spizziri, Louis Joseph, 400 Park Ave., Paterson, N. J., OP

Stark, Eric James, 211 Avenue Bldg., Saskatoon, Sask., Canada, ALR

Stavola, Frances P., 123 E. 61st St., New York 21, N. Y., OP

Stein, Edward, 25622 Coolidge Highway, Huntington Woods, Mich., OP

Stenerodden, Sidney Clinton, 401 Livesley Bldg., Salem, Ore., OP

Stewart, Landis C., 108 Nat'l Bank Bldg., Adrian, Mich., OP

Stickle, Arthur Waldo, 924 Arcade Bldg., St. Louis 1, Mo., OP

Stiernberg, Douglas Davis, 411 Third Ave. North, Texas City, Texas, OP

Strause, Harold L., Jr., 244 N. Fifth St., Reading, Pa., OP

Strong, Mervyn Stuart, 203 Commonwealth Ave., Boston, Mass., ALR

Sturman, Robert Morris, 8 E. 84th St., New York 28, N. Y., OP

Stuteville, Orion Harry, 700 N. Michigan Ave., Chicago 11, Ill., PIS

Sweeney, John Thomas, 21724 Lorain Rd., Cleveland 26, Ohio, OP

Switzer, Fred D., McAlester Clinic, McAlester, Okla., OP

Talbot, Thomas Edward, 640 Medical Arts Bldg., Portland 5, Ore., OP

Tani, George Tadashi, 1210 Lowry Medical Arts Bldg., St. Paul 2, Minn., OP

Taub, Robert Golde, 6 N. Michigan Ave., Chicago 2, Ill., OP

Tenney, Alonzo Cass, Lackland AFB Hospital, San Antonio, Texas, OP

Terner, Irwin Stanley, 1200 Chartiers Ave., McKees Rocks, Pa., OP

Thorlakson, Neil Frederick, 605 Cobb Bldg., Seattle 1, Wash., OP

Tillman, Joseph M., Jr., 434 W. Lindley Ave., Philadelphia 20, Pa., OP

Tippins, H. Keener, 1750 N. Palafox St., Pensacola, Fla., ALR

Torok, Nicholas, 55 E. Washington St., Chicago 2, Ill., ALR

Trapp, Claude Wilkes, Jr., 183 N. Upper St., Lexington, Ky., OP

Tredici, Thomas J., 3310th USAF Hospital, Scott AFB, Ill., OP

Tucker, Leonard Charles, 10300 Carnegie Ave., Cleveland 6, Ohio, OP

Vaccaro, Eugene Albert, 1085 Madison Ave., Memphis 3, Tenn., OP

Vallotton, William W., U. S. Naval Hospital, Beaufort, S. C., OP

Vaughn, Arthur Raymond, Jr., 512 W. Erie Ave., Philadelphia 40, Pa., OP

Villadolid, Victor F., 123 E. 61st St., New York 21, N. Y., OP

Volk, David, 2460 Fairmount Blvd., Cleveland 6, Ohio, OP

Weaver, Richard Grey, Bowman Gray School of Medicine, Winston-Salem, N. C., OP

Webb, Edward F., 30 N. Michigan Ave., Chicago 2, Ill., OP

Webb, Paul Benedict, Jr., 308 N. Sixth St., St. Louis 1, Mo., OP

Weekley, Robert Dean, 5500 Ridge Rd., Cleveland (Parma) 29, Ohio, OP

Weiner, Robert L., 709 Republic Bldg., Denver 2, Colo., OP

Wenger, Alvin Paul, 1100 N. Charles St., Baltimore 1, Md., ALR

Weyand, George Miller, 2010 17th St., Bakersfield, Calif., OP

Wheatly, William K., 324 N. Duke St., Lancaster, Pa., OP

Wickliffe, Robert C. M., 501 American Nat'l Bank, Kalamazoo, Mich., OP

Wikler, Irving, U. S. Army Hospital, APO 108, New York, N. Y., OP

Wilkes, James Wallace, Jr., Box 627, Columbia, Tenn., OP

Wilkins, Paul C., 1100th USAF Hospital, Bolling AFB 25, D. C., OP

Williams, Fred C., U. S. Army Hospital, Fort Ord, Calif., OP

Wixted, Julia Lundstrom, 314 Lincoln Way East, Mishawaka, Ind., OP

Wright, Harvey Darwin, 247 E. State St., Columbus 15, Ohio, OP

Wudka, Enrique, Rio de la Plata 56-MB, Mexico, D. F., Mexico, OP

Yoe, Lionel Meredith, 1509 Fourth Ave., Columbus, Ga., OP

The Council nominates for the following offices for the year 1958:

President: Dr. LeRoy A. Schall, Boston

President-elect: Dr. John H. Dunnington, New York

First Vice-President: Dr. F. Bruce Fralick, Ann Arbor

Second Vice-President: Dr. David D. DeWeese, Portland, Oregon

Third Vice-President: Dr. Philip M. Lewis, Memphis

Councillor: Dr. Victor Goodhill, Los Angeles

Executive Secretary-Treasurer: Dr. William L. Benedict, Rochester, Minnesota

Secretary for Ophthalmology: Dr. Kenneth L. Roper, Chicago

Secretary for Otolaryngology: Dr. Eugene L. Derlacki, Chicago

Secretary for Instruction in Ophthalmology: Dr. A. D. Ruedemann, Detroit

Secretary for Instruction in Otolaryngology and Maxillofacial Surgery: Dr. Dean M. Lierle, Iowa City

Secretary for Home Study Courses: Dr. Daniel Snydacker, Chicago

Secretary for Public Relations: Dr. Glen Gibson, Philadelphia

Mr. President, I move the adoption of these nominations.

The motion was seconded by Dr. Mullen.

PRESIDENT HANSEN: Our by-laws stipulate that if five members submit a written nomination in addition to these it shall be considered. Are there any such petitions on the floor?

No petition was presented. The motion was put to a vote and carried.

PRESIDENT HANSEN: Will you escort Dr. Schall to the rostrum, Dr. Ruedemann and Dr. Derlacki.

[Drs. Ruedemann and Derlacki escorted Dr. LeRoy A. Schall to the rostrum and the members arose and applauded.]

PRESIDENT HANSEN: I will ask the Senior Member of the Council to continue with his report.

DR. REESE: The Council recommends that the next scientific session of the Academy be held at the Palmer House in Chicago, October 12-17, 1958.

Mr. President, I move the adoption of this recommendation.

The motion was seconded by Dr. Snydacker and carried.

The Council has approved the following resolution amending the Constitution:

"Associate Fellows may be elected from those in fields allied to ophthalmology and otolaryngology who are not eligible to other fellowship classifications and who are proposed by two active Fellows, approved by the Council, and have a three-fourths affirmative vote of all Fellows present at the annual meeting.

"Associate Fellows shall pay dues equal to one-half the regular dues for Junior Fellows. They shall not be eligible to vote or to hold office, but they shall receive the TRANSACTIONS."

This proposed amendment was read at the

annual business meeting last year and is now up for action. I move that this amendment be adopted, Mr. President.

The motion was seconded by Dr. A. D. Ruedemann and carried.

The Council has approved the following names for associate fellowships:

Jack Copeland, Chicago
Merle Lawrence, Ann Arbor
Lorenz Zimmerman, Washington, D. C.

I move, sir, that this recommendation of the Council be approved.

DR. ROPER: I second the motion.

PRESIDENT HANSEN: You have heard the motion and its second. Is there any discussion?

DR. CHARLES E. JAECKLE: Mr. Chairman, could we hear the fields that these men are in that are allied to ophthalmology and otolaryngology.

PRESIDENT HANSEN: Mr. Jack Copeland is a man who is with one of the optical companies now. He has taught in our instructional courses for many years, teaching retinoscopy.

Merle Lawrence is a psychologist at the University of Michigan, Ann Arbor, and is not in the active practice of either ophthalmology or otolaryngology.

Dr. Lorenz Zimmerman is in charge of the Registry of Ophthalmic Pathology in the Armed Forces Institute of Pathology, Washington, D. C.

DR. JAECKLE: It is my impression that Mr. Copeland is also a licensed optometrist and is on the program of the American Academy of Optometry fairly regularly. Am I incorrect?

DR. ROPER: I cannot answer that, but I can say that he is a visiting lecturer to all of the ophthalmic institutes, that is, the medical universities in the country where ophthalmic resident training is going on. He lectures to all of the resident groups in Chicago, and I know that he does the same at Wayne University, where Dr. Ruedemann conducts his resident program, and down at Tulane. I know there are schools in the East, New York University and Harvard. There is quite a list.

DR. JAECKLE: I know also that it is widely publicized that the optometrists are teaching us whatever we know about optics.

PRESIDENT HANSEN: Was that just for information, Dr. Jaeckle?

DR. JAECKLE: Yes, I think that I would like to hear the reaction of some of the other members, if anyone has an interest in this. I was concerned that there was no definition as to allied fields when the amendment was adopted. I think that this could be embarrassing to us. It seems that this candidate is in quite a different class from all the others.

PRESIDENT HANSEN: There is a motion before us which was duly seconded. Is there any other discussion?

If there is no further discussion, I will ask for a vote. All those in favor of the recommendations please say aye; contrary-minded, nay. Three-fourths of the members present having voted affirmatively, these four men are elected to associate fellowship.

DR. REESE: Mr. President, this completes the report of the Senior Member of the Council.

PRESIDENT HANSEN: You have heard the various sections which have been approved. Is there a motion that the complete report of the committee be accepted?

Dr. Ruedemann moved that the report of the Senior Member of the Council be accepted. The motion was seconded by Dr. Roper and carried.

PRESIDENT HANSEN: Is there any new business to come before the meeting?

SECRETARY BENEDICT: There is nothing on the table.

PRESIDENT HANSEN: The Secretary has nothing on the table. Any new business from the floor?

Now that we have Dr. Schall up here, we will ask him to rise. Dr. Schall, I want to congratulate you.

DR. LEROY SCHALL: Mr. President, and Members of the Academy: I am fully aware of the great honor that you have conferred upon me. I am deeply humble. I can only pray that I will fulfill your expectations with the same efficiency and finesse that your former presidents have done.

May my first official act be to ask you to give a rising vote of thanks to our retiring President, Dr. Hansen, for the wonderful program he has put on?

(The audience arose and applauded.)

DR. SCHALL: And may my next official act be to ask you to give a rising vote of thanks to our very efficient Secretary-Treasurer and to the other secretaries of this society?

(The audience arose and applauded.)

PRESIDENT HANSEN: Thank you very much, Dr. Schall.

I am going to ask that General Byrnes and Dr. Reese escort the President-Elect, Dr. Dunnington, to the rostrum.

(General Byrnes and Dr. Reese escorted the President-Elect, Dr. Dunnington, to the rostrum and the audience arose and applauded.)

DR. DUNNINGTON: At a time like this, one is a bit overwhelmed. The Academy has been extremely kind to me. I have passed through two of the vice-presidencies and have been privileged to be a member of the Board of Councillors; now that I am on the threshold of this highest honor I am simply speechless. I can tell you, though, that I will do my utmost to uphold the high ideals of this great organization, and I will do everything in my power to live up to all of its aims and traditions. I thank you from the bottom of my heart.

PRESIDENT HANSEN: Thank you, Dr. Dunnington and Dr. Schall. I am sure that with two such people coming along, the Academy is not going to lack for good leadership.

This concludes the business on the table, at the table, and under the table. If there is no further business, I want to thank you all for coming. It is very nice to have such a fine looking group come to a business meeting. I know it seems like a chore to most people and not too many come. I wish there were more who took an active part in the business of the organization.

I want to thank you all so very much for having me as your President. I have already thanked you a number of times, but I don't feel that I can adequately do it, and to those of you who have contributed to the program and to those of you who have done the leg work, my sincere thanks.

The meeting is adjourned.

[The meeting adjourned at 6:00 o'clock.]

COMMITTEE REPORTS

Upon recommendation by the Activities Committee, the Council voted acceptance of the following reports of standing and joint committees:

REPORT OF THE COMMITTEE ON AUDIO-VISUAL EDUCATION

DEAN M. LIERLE, M.D., Chairman

The Committee has authorized the purchase of two prints of a motion picture on Removal of Temporal Bones at a cost of $40.00. The film is based on a script by Dr. Edmund P. Fowler, Jr., and approved by the Committee on the Conservation of Hearing. Reprints of the article by Dr. Fowler published in the September-October 1956 TRANSACTIONS were mailed to a selected list of otologists, pathologists and coroners. Announcement of the films for loans was made by mail and in the TRANSACTIONS. Only three requests for the film on loan have been received to date.

Twenty-five sets of the Album of Embryology of the Ear, compiled by the McNally Committee, were purchased in April 1957 at a cost of $5,435.55—$217.42 each. This figure includes the cost of the prints (198 in each set), the albums and printing of the legends. The albums were offered for sale at $125.00 each, or in combination with the purchase of the motion picture Embryology of the Ear at $100.00. Seventeen sets have been sold. There are six complete sets still available.

The price of the motion picture Embryology of the Eye was reduced from $250.00 to $200.00 in January 1957 through a new process of reproduction at an initial cost of $875.00, which was authorized by the Council. The requests for loans of the picture from the American Medical Association has increased so that the A.M.A. now has purchased and has available for loan eight prints, which are in constant service. Sale of the prints continues in many foreign countries as well as in the United States. To date 67 prints have been sold. The Embryology of the Ear film sale has been encouraging. The cost is prohibitive to many schools even on an installment basis. To date 17 prints have been sold, seven in combination with the Album.

The Committee has no plans for production of other films in the next year.

REPORT OF THE COMMITTEE ON CONSERVATION OF HEARING

DEAN M. LIERLE, M.D., Chairman

The Executive Committee of the Committee on the Conservation of Hearing of the American Academy of Ophthalmology and Otolaryngology held a meeting December 1 and 2, 1956, at the Palmer House in Chicago. A number of meetings of the subcommittees, namely, Noise in Industry, Hearing in Children, Hearing in Adults, and Research, have been held.

During the last year, Dr. Charles Kinney and Dr. Stacy Guild resigned from the Committee, and Dr. Joseph Serio of Buffalo, New York, and Dr. Richard Silverman of St. Louis, Missouri, were appointed to the Committee as consultants.

The Subcommittee on Noise in Industry has been very active in the last year. They have continued their research in regard to noise in industry. One of their major accomplishments has been the writing of a GUIDE which is being approved by all the major societies concerned in otology. The Noise Committee received additional support of $5,000 a year from the American Petroleum Institute for an indefinite period, and the National Institute of Health granted $19,482.00 per year for a period of five years for research.

Dr. Aram Glorig reported that the Committee had prepared a brochure, consisting of 85 to 90 pages, on the analysis of the 1954 Wisconsin State Fair Hearing Survey, which has been published by the Academy and is now available.

Dr. Kinney, a former member, presented a plan for a Temporary Development Group whose chief purpose was to procure funds for research in otolaryngology. Each major society has appointed one representative to this Group, and Dr. Meyer Fox was selected to represent the Committee on the Conservation of Hearing of the American Academy of Ophthalmology and Otolaryngology.

The Committee on Hearing in Children, under the chairmanship of Dr. Ray Jordan, formulated an elaborate program for a national study for the problems of hearing in children. The estimated funds available for this study are $30,000 a year from the Children's Bureau for three years, with possible further extension, and $50,000 from the National Institutes of Health, in addition to any sums allocated by the Academy.

Under the chairmanship of Dr. Lawrence R. Boies, the subcommittee on Hearing in Adults has completed a manual entitled "Hearing in Adults."

The Finance Committee was discontinued due to the fact that the various committees were obtaining their own grants from various sources.

The Research Committee under the chairmanship of Dr. William McNally has continued to foster research in the resident training in otolaryngology. They have recommended an award for original investigation, both clinical and basic, in otolaryngology. The committee has given further consideration to making known available sources of funds for research in otolaryngology and has recommended that this be presented at the Teacher's Section at the Academy meeting. They also recommended that one year of credit be allowed toward certification by the Board for the time spent in research in otolaryngology.

The Committee on Standards was appointed and Dr. Gordon Hoople was chosen as chairman. The other members of the Committee are Dr. Kinsey Simonton, Juergen Tonndorf and Hollie McHugh. The Committee is preparing a list of audiometers which will meet the requirements of the American Standards Association. It is their desire to secure laboratories which are available for teaching and to determine the needed specifications. It was recommended that merely a list of those audiometers which meet the requirements of the American Standards Association be printed in the TRANSACTIONS.

The Liaison Committee between otology and audiology under the chairmanship of Dr. Raymond Carhart reported that some progress has been made in the professional relationship between otolaryngologists and members of the American Speech and Hearing Society. It was felt that a great deal had been accomplished by the recent Academy action making it possible for members of the American Speech and Hearing Society to become Associate Fellows in the Academy.

Dr. Hollowell Davis reported that progress was being made with the International Standards Bureau in determining zero hearing loss. He expects to have a full report at the next meeting.

Dr. Glorig is making progress with a handbook on audiology which should be completed before the next meeting.

Dr. Tonndorf is preparing a book on "Introduction to Acoustics for Otolaryngologists." It has been recommended that the book be reviewed again and reconsidered at the next meeting.

The toxic effect of dihydrostreptomycin was discussed. Dr. George Shambaugh brought out the fact that penicillin was used in combination with dihydrostreptomycin by several drug companies. The committee went on record as urging that the use of dihydrostreptomycin be avoided whenever possible because of the toxic effect to the auditory nerve.

Dr. Tonndorf reported that an Otological Research Association was being patterned after the Association for Research in Ophthalmology and that the next meeting has been set temporarily for the Saturday preceding the Academy meeting in 1957.

* * *

The Chairman wishes to call attention to the fact that the Committee has been successful in obtaining in the neighborhood of $200,000 from various sources for research grants and that these grants have been obtained because of the support of the Academy itself. In other words, there is some question whether these committees could have obtained any grants without the financial support of the Academy. The chairman therefore recommends that the same sum of $15,000—$7,500 for the Noise Committee and $7,500 for the general committee—be granted again next year.

REPORT OF THE COMMITTEE ON IMPLANTS AND IMPLANT TECHNIQUES

A. D. Ruedemann, M.D., Chairman

An informal all-day meeting was held at the Kresge Eye Institute on Monday, March 12, during which time all the phases of implants and their defects were thoroughly discussed. Members of the Eye Makers Guild and most of the members of the committee attended, during which time it was decided to continue study for a practical over-all implant.

It was decided to hold a breakfast meeting at the time of the Academy meeting in the fall.

It was suggested that the committee be continued and that an interim meeting be held again next Spring.

REPORT OF THE COMMITTEE ON OPHTHALMIC PATHOLOGY

Michael J. Hogan, M.D., Chairman

1. OPHTHALMIC PATHOLOGY REGISTRY

Captain Silliphant of the Registry reports the following for the year 1956:

One thousand seven hundred and eleven (1,711) specimens were contributed to the Registry of Ophthalmic Pathology during 1956. Of these 917 were whole eyes (667 from civilian contributors). The other 794 cases were sectioned eyes and specimens from the conjunctiva, lids, and orbit (269 from civilian contributors). There is now a total of 44,000 accessions in the Registry.

On December 31, 1956, the laboratory had a backlog of 565 cases compared with 424 cases on December 31, 1955. The backlog of cases with microslides prepared but reports not yet completed was reduced from 1,121 on December 31, 1955, to 362 on December 31, 1956. Thus, the total backlog was reduced 618 cases during the calendar year 1956. During the year 2,465 final reports were sent to contributors of intact eyes plus 546 additional reports to contributors of biopsy specimens and sectioned eyes.

The Registry loan sets were borrowed by 144 individuals: 10 in the Armed Forces, 3 in the Public Health Service, 3 in the Veterans Administration, and 123 civilians.

The laboratory prepared 26,668 microslides. This figure includes 1,938 slides for teaching and loan material and 2,664 slides for research projects.

Teaching Activities:

Personnel in the Section of Ophthalmic Pathology are engaged in a variety of teaching activities which include (a) participation in formal courses, (b) on-the-job training of residents and fellows, (c) preparation of clinicopathologic conferences, (d) preparation of microslide and lantern slide loan sets, and (e) preparation of exhibits.

Courses:

1. *AFIP's Annual Course in Ophthalmic Pathology.* A course in Ophthalmic Pathology was conducted at the Armed Forces Institute of Pathology, March 19 to 23. The faculty included: Dr. Lorenz E. Zimmerman, course director, Dr. Sadi de Buen, Mrs. Helenor C. Foerster, Dr. T. E. Sanders, Dr. Arnall Patz, Dr. Benjamin Rones, Dr. T. E. Haggerty, Miss Eleanor V. Paul, and Mr. L. P. Ambrogi. Attendance included 28 physicians from the Armed Forces and other governmental institutions and 21 civilians.

2. *Course in Ophthalmic Pathology for general pathologists.* A course in Ophthalmic Pathology for general pathologists was conducted at the Drake Hotel, Chicago, Illinois, October 13, at the beginning of the annual joint meeting of the College of American Pathologists and the American Society of Clinical Pathologists. Dr. Zimmerman, course

director, was assisted by Dr. Edith Parkhill, Mr. L. P. Ambrogi, and Miss E. V. Paul.

3. *Course in Ophthalmic Pathology at the Escola Paulista de Medicina.* Drs. Lorenz E. Zimmerman and Sadi de Buen presented a lecture course in Ophthalmic Pathology consisting of four evening session of two hours each, January 19 to 25, in Sao Paulo, Brazil. The following subjects were covered: Histology of the Eye, General Inflammation, Granulomatous Inflammations within the Eye, Pathology of the Lens, Complications of Cataracts, Ocular Trauma and Related Syndromes, Intraocular Neoplasms, Pathology of the Optic Nerve.

4. *Lancaster Course.* Dr. Zimmerman served as instructor in Ophthalmic Pathology, Lancaster Course in Ophthalmology, Waterville, Maine, (Colby College), July 9 to 21.

5. *Dr. Theobald's Course.* Dr. Zimmerman participated in Dr. Theobald's Course at the Academy Meeting, lecturing on Granulomatous Inflammations of the Eye, Chicago, Illinois, October 14 to 19, during the Sixty-First Annual Session of the American Academy of Ophthalmology and Otolaryngology.

6. Ophthalmic Pathology conferences and lectures were conducted at the Armed Forces Institute of Pathology for residents of the Washington area.

On-the-Job Training:

The following Medical Officers received training in Ophthalmic Pathology during the periods indicated:

Captain John R. Weimer, MC, USAF, October 25, 1955 to April 30, 1956

Captain James A. Stokes, MC, USA, May 1, 1956 to November 30, 1956

Lt. Col. Raymond A. Skeehan, Jr., MC, USA, July 1, 1956 for one year.

2. TEACHING MANUAL

The revision of the Atlas and Textbook of Ophthalmic Pathology has necessitated that further work on the teaching manual be discontinued temporarily.

3. OPHTHALMIC PATHOLOGY LABORATORIES

The list of ophthalmic pathology laboratories was again published during the year and all new laboratories were added to this list. It is hoped that those practicing ophthalmology will benefit by having such lists and that the listed laboratories will be able to accept eye specimens.

4. OPHTHALMIC PATHOLOGY ATLAS

The W. B. Saunders Company notified the AFIP and the Academy that the supplies of the Atlas would be exhausted by 1957. It was decided that a meeting of the Pathology Committee should be held in Washington, D. C., in April, 1957. The Committee met with Mr. John L. Dusseau of the Saunders Company and the entire problem of revision was discussed. It was voted by the Committee that a revision was in order and that recommendation should be made to the Academy that the Atlas be revised. A letter to this effect was sent by the Committee to Dr. Benedict's office shortly afterward and the Pathology Committee wishes to recommend to the Council that they approve revision of the Atlas. It is estimated that the Atlas can be revised and the new edition be made available for the 1960 meeting of the Academy. The Committee also estimates that the cost to the Academy for this revision will be in the neighborhood of approximately $5,000.00 a year for the years 1958 and 1959, and possibly $2,500.00 for 1960. The Saunders Company has indicated willingness to undertake the editorial responsibility as far as the ordinary sentence structure, grammar, and the index are concerned. This would save a considerable amount of money because one of the principal costs on the first edition was for editorial work. There would be a small charge (possibly $250.00 to $500.00) for the indexing, but this would be chargeable against royalties.

In view of the possibility that the Academy would support this revision, the Committee has canvassed a selected group of eye pathologists to determine if they would accept the responsibility for individual chapters. Up to the present time all those contacted have accepted so that preliminary work can be instituted as soon as the Committee receives Council approval.

The Armed Forces Institute of Pathology through Dr. Hugh Grady and Dr. Lorenz Zimmerman expressed their approval of this project.

REPORT OF THE COMMITTEE ON OTOLARYNGIC PATHOLOGY

PAUL H. HOLINGER, M.D., Chairman

We wish to submit herewith a report of the activities of the Committee on Otolaryngic Pathology during the past year. A copy of the minutes of the committee meeting held on October 14, 1956, has been filed with the Executive Secretary of the Academy. The Committee has been considering the following areas of interest:

1. *Atlas of Otolaryngic Pathology*

At the time of the last Committee meeting

approximately 500 volumes of an initial printing of 3,000 had been sold. The total number of volumes sold to this date is approximately 1,000. The Committee has considered ways of promoting further sales and feels that the availability of the *Atlas* should be announced in the printed program of the Academy with an order blank and, similarly, announcements should appear in the TRANSACTIONS together with an appropriate order blank. The Committee feels further that verbal announcement of the availability of the *Atlas* should be made during the Academy meeting, preferably at the Monday morning combined session, at the time usually devoted to announcements, and at the beginning of one or more of the general sessions on otolaryngology.

2. *Sets of Slides of Otolaryngic Pathologic Material Obtainable from the Armed Forces Institute of Pathology*

At the request of the Council and the Executive Secretary, a survey of the slides in otolaryngology has been undertaken. The sets had been found to be both incomplete and inadequate and the Committee, in cooperation with the AFIP, has outlined plans for correcting this situation. A preliminary report was made to the Council on October 13, 1956, with the request that the study be continued.

During the meeting of the Sixth International Congress of Otolaryngology in Washington in May, 1957, Dr. Ben Senturia, a member of this Committee, discussed with Dr. Hugh Grady and Dr. Rosen of the AFIP staff, the problem of the new slide sets. As had previously been reported, the old 100-slide sets were not in good condition and 25 of the 26 available were out on loan; 19 of the smaller sets were likewise in use. Dr. Grady reported that 32 new specimens had been sectioned to be included in the sets and it was felt that these should be made available to those unable to obtain the larger sets, until such time as the completed sets can be entirely replaced. It appeared that both Dr. Grady and Dr. Rosen, who has replaced Col. Marcus Beck as Director of the Section on Ear, Nose, and Throat Pathology of the Registry of Pathology, were anxious to complete the sets but were confronted by the lack of technical help and a backlog of other work of higher priority. Since Dr. Grady is no longer a member of the AFIP staff, the Committee will be in touch with his successor in an effort to further this important project.

3. *Temporal Bones*

In discussing the problem of obtaining temporal bones for study, the Committee discovered that three groups within the Academy are considering this subject: (1) the Committee on Otolaryngic Pathology; (2) the Committee on Conservation of Hearing; (3) the Subcommittee on Research of the Committee on Conservation of Hearing.

One of the obstacles in furthering the study of temporal bones is the lack of a qualified technician at the AFIP to process the material. It was the wish of this Committee to request the Council to provide financial support for such a technician since the Institute cannot do so at present. Such a recommendation has already been made to the Council by the Subcommittee on Research of the Committee on Conservation of Hearing, and the Committee on Otolaryngic Pathology strongly urges that the Council give favorable consideration to that recommendation.

4. *Registry of Pathology*

Dr. Grady and Colonel Beck of the AFIP asked the cooperation of this Committee in enlarging and improving the Registry material in the field of otolaryngic pathology. They presented their needs and an outline of the information they wish submitted with the pathologic material. This Committee will give the Institute every assistance in improving this section of their material.

Since the last meeting of this Committee, Dr. Hugh G. Grady, who for the past eight years has been Director of the American Registry of Pathology of the Armed Forces Institute of Pathology and who has given such valuable assistance to this Committee, has resigned to become the first Professor of Pathology at Seton Hall College of Medicine and Dentistry, Jersey City, New Jersey. We would like to recommend that the Council express to Dr. Grady its appreciation of his services to the Academy and to this Committee.

5. *Residencies*

The problem of obtaining residents for a service in pathology at the AFIP and of improving the teaching of pathology in the general residencies in otolaryngology remains an acute one and continues to receive the serious consideration of this Committee. Dr. DeWeese is making a survey of the amount of time devoted to pathology in residencies in otolaryngology in the United States with a view to its evaluation. On the basis of this information it is hoped the Committee can make concrete recommendations for improving this field of instruction. It is also planned to present editorials on the subject for publication in the otolaryngologic journals, including the TRANSACTIONS.

With deep regret the Committee reports the death of Dr. Lewis F. Morrison of San Fran-

cisco, who was a most valuable member of this Committee. This vacancy has not been filled.

Further consideration of the subjects outlined above will be included in the agenda for the meeting of the Committee on October 15, 1957, and a report will subsequently be submitted to the Council.

REPORT OF THE COMMITTEE ON PAN-AMERICAN RELATIONS IN OPHTHALMOLOGY

CONRAD BERENS, M.D., Chairman

The annual meeting of the Committee was held in the Illinois Athletic Club at 6:00 p.m., October 14, 1956, with eight members in attendance.

It was agreed that the current most useful function of the Committee is the publicizing of the activities of the Pan-American Association of Ophthalmology, with particular emphasis on the IV Interim Congress to be held in New York in April 1957.

The Committee unanimously voted to extend its thanks to Dr. William L. Benedict and the officers of the Academy for their continuing interest in promoting cordial relations among ophthalmologists of the Western Hemisphere.

REPORT OF THE COMMITTEE ON STANDARDIZATION OF TONOMETERS

PETER C. KRONFELD, M.D., Chairman

TONOMETER CALIBRATION

At the October 1956 meeting, the Committee took the important step of approving the publication of Dr. Jonas S. Friedenwald's last paper on tonometer calibration, "Attempt to Remove Discrepancies Found in the 1954 Calibration Scale for Schiøtz Tonometers."

The decision was reached after thorough discussion and careful consideration of all available evidence, including a prepublication copy of Dr. Earle McBain's paper on Tonometer Calibration (Archives of Ophthalmology, 57: 520 [April] 1957). While this study casts considerable doubt on the validity of Friedenwald's or any earlier method of measuring the intraocular pressure during tonometry (Pt), McBain's measurements are in good agreement with Friedenwald's adjusted (1955) measurements for the 5.5 gram weight. Since the latter set of measurements is the real basis of the 1955 scale, the Committee felt that McBain's measurements could be interpreted to support that scale as far as the 5.5 gram readings were concerned. In assigning pressure equivalents to the readings with the high weights, Friedenwald was largely guided by empirical, paired measurements on living human eyes. The Committee felt that the discrepancy between Friedenwald and McBain with regard to the Pt values for the higher weights should not have any serious effect upon the 1955 scale.

The most pressing reason for adopting the 1955 scale, the Committee felt, was the intrinsic inconsistency of the 1954 scale. In terms of self-consistency the 1955 scale should be a decided improvement over all previous calibration scales. Weighing carefully the pros and cons, the Committee finally decided to approve the publication of Dr. Friedenwald's paper together with an explanatory note prepared by the Chairman. The paper was published in the January-February issue of the TRANSACTIONS of the Academy.

Following the suggestion of Dr. John McLean, the Chairman has prepared an editorial for the American Journal of Ophthalmology, explaining the reasons why the Committee is recommending the adoption of another scale.

FOREIGN TESTING STATIONS

The major item under consideration during the last year has been the recommendations for refinements and additions to existing specifications submitted by Dr. Goldmann of the testing station in Berne, Switzerland, and Dr. Albrecht in Cologne, Germany. These recommendations were considered at two meetings of the Committee held in the office of the Electrical Testing Laboratories in New York on December 3, 1956, and on June 6, 1957. The Tonometer Testing Kit designed by Professor Goldmann was purchased by the Academy and tested by the Chairman, by the personnel of the Electrical Testing Laboratories in New York, and then sent to the testing station in Cleveland for further testing. At this time the Committee does not feel that any of Goldmann's or Albrecht's recommendations are of sufficient practical significance to justify their adoption. The Cleveland station will continue to use Goldmann's testing methods and submit a report during 1958.

The Chairman has had correspondence with ophthalmologic organizations both in Canada and Australia which are interested in the establishment of tonometer testing stations

TESTING STATIONS IN THE UNITED STATES

The work at the New York, Cleveland, San Francisco, Toronto and Sao Paulo stations

has continued without major change (report enclosed). There obviously is a need for continued activity of these stations.

CERTIFICATION OF TONOMETERS

Certification of tonometers by the Electrical Testing Laboratories has been continued along previously established lines. [A detailed report is on file in the Academy office.]

The Electrical Testing Laboratories are at present engaged in the testing of a large batch of apparently well made German tonometers.

Mr. Little, a key man in matters pertaining to the physical testing of tonometers and an invaluable friend of this Committee since its very inception, retired from the position of president of the Electrical Testing Laboratories on July 1, 1957, but will continue to take an active interest in all problems pertaining to tonometer testing. His successor is Mr. E. H. Salter.

MEMBER

Dr. Earle McBain of San Rafael, California, was appointed a member of the Committee.

There still remain a good many unsolved problems in the field of standardization of tonometers. It would, therefore, seem desirable that the activities of this committee be continued.

REPORT ON THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

M. Elliott Randolph, M.D.
Academy Representative

Due to illness, Dr. Randolph was unable to attend the Council Meeting of the American Association for the Advancement of Science.

Dr. John H. Dunnington attended in his stead and sent in the following report:

After electing officers and attending to other routine business, an amendment to the Constitution was approved which adopted in principle the amalgamation of the two journals published by them, viz., Science and Scientific Monthly. The details were left to the discretion of the Board of Directors. It was also voted to change all organizations holding "associate membership" to the status of affiliates. The council rejected the proposal to have each affiliated society taxed $25.00 a year to defray expenses of their representative to the council meetings. These items were the main ones considered.

REPORT ON THE AMERICAN BOARD OF OPHTHALMOLOGY

Kenneth C. Swan, M.D.
Senior Representative

Recently, there has been considerable discussion of the functions of the various American medical and surgical boards; therefore, it seems proper to restate the prime objects of the American Board of Ophthalmology: to pass judgment on the education and training of competent and responsible ophthalmologists and to elevate the standards of ophthalmology. To properly fulfill these functions, the American Board of Ophthalmology has had to study and revise its requirements and examinations in accordance with the rapid progress in ophthalmology and the changing trends in medical services and education.

Several important changes have been made as a result of these studies. The educational prerequisites for examination have been increased. Individuals beginning training after December 21, 1956, may apply for the qualifying examination only after a year of institutional work or private practice in addition to three years formal (residency) ophthalmologic training. All other individuals beginning training after December 31, 1956, may apply after sixty months in ophthalmology or after seventy-two months of combined practice with otolaryngology.

The written qualifying examination also has been improved to make it objective, comprehensive and more practical. Answers to the questions can be subjected to statistical analysis, so that the validity and scope of future examinations can be better controlled. The 1956 and 1957 examinations were tests of ability of the candidates to apply basic knowledge to clinical situations, rather than mere tests of factual knowledge. Two hundred twenty-six candidates took the written qualifying examination conducted on January 21, 1957; one hundred eighty-three passed and forty-three failed. Correlation of results on the new type of written qualifying test with the oral practical examination has been gratifying.

The grading system used in the oral and practical examinations also was analyzed, and, on this basis, a new system of grade evaluations similar to that used by the American Board of Medical Examiners was adopted. Increased consideration now is given to the individual candidates over-all performance in determining the need for his re-examination in individual subjects. Oral and practical examinations were given in St. Louis in October 1956, and in New York in 1957. In St. Louis one hundred three candidates were examined;

seventy-seven passed, four failed and twenty-two were conditioned. In New York one hundred forty-nine candidates were examined; one hundred eight passed, thirty-one conditioned and ten were failed. Another oral and practical examination will be conducted in Chicago, October 7 through 11, 1957.

The examination in ophthalmic surgery has continued to receive much study and discussion. For many years, the Board has required a detailed list of each applicant's surgical experience. These lists have permitted the Board to study the availability of surgical training for students of ophthalmology. The Board has been greatly concerned because the opportunities to obtain extensive surgical experience are becoming increasingly limited as the number of governmental and private insurance programs increases. These programs decrease the number of medically indigent patients available for residents' surgical training. A number of residencies which have excellent instructional programs and provide diversified clinical experience now have only a limited number of patients upon whom the residents may operate.

The problem of increasing the availability of surgical training continues to receive the attention of the Board and the Residency Review Committee, with which the Board cooperates; however, the American Board of Ophthalmology has already taken steps to improve the surgical part of its examination. The minimal surgical experience for eligibility for examination is being re-evaluated. Also, an increased number of surgical questions were included in the 1957 written qualifying examination. The oral and practical examination in surgery has been confined to examination and discussion of surgical patients plus oral quiz on the principles of ophthalmic surgery, but many ophthalmologists have felt that there is need for a more comprehensive examination. After several years of consideration, the American Board announced a proposal to establish a more advanced examination in ophthalmic surgery requiring extensive surgical experience for eligibility and demonstration of technical competence and judgment for certification. This proposal was met by strong opposition from a majority of practicing ophthalmologists and will not be implemented; however, in a poll conducted by the Board more than four hundred ophthalmologists voted their approval of an advanced surgical certificate, and many others expressed the belief that the Board should continue to strengthen the surgical part of its present examination. The American Board of Ophthalmology welcomes these opinions and will continue to study the problem.

The officers of the American Board of Ophthalmology of 1957 are: F. Bruce Fralick, M.D., chairman; Gordon M. Bruce, M.D., vice chairman; Merrill J. King, M.D., secretary-treasurer. There are five consultants: Walter S. Atkinson, M.D., William L. Benetics, illumination, and visual physiology of con- C. Cordes, M.D., Georgiana D. Theobald, M.D.

The following members of the Board represent the American Academy of Ophthalmology and Otolaryngology: Kenneth C. Swan, M.D., Gordon M. Bruce, M.D., F. Bruce Fralick, M.D., Alson E. Braley, M.D., Drs. Francis H. Adler, M. J. King, H. J. Joy, and Paul Chandler represent the American Ophthalmological Society. Drs. John McGavic, James H. Allen, Michael J. Hogan, and Wilbur C. Rucker represent the section on Ophthalmology of the American Medical Association.

REPORT OF THE BOARD OF GOVERNORS OF THE AMERICAN COLLEGE OF SURGEONS

SHIRLEY HAROLD BARON, M.D.
Senior Representative

The 1956 meeting of the Board of Governors of the American College of Surgeons was held on October 7 in San Francisco. A revision of representation on the Board of Governors in the case of certain specialty groups and organizations was up for consideration. The Governors were in agreement that every effort should be made to maintain adequate representation on the Board for both the general surgeons and the specialists.

A preliminary report by the Committee to Study Itinerant Surgery and Surgeons was given. This full report should be completed at the 1957 meeting and should be of interest to the Academy.

In the report of this Committee of last year it was noted that the College has changed its classification from Ophthalmology to Ophthalmic Surgery. The new requirements for this classification are:

All general requirements for Fellowship in the American College of Surgeons shall obtain, except as follows:

1. Completion of at least six years of practice, and
2. Professional competence, evaluated by individual observation, and
3. Submission of 30 detailed case records, unless the applicant has professorial status. (No exemption because of certification.)

The Academy is now represented on the Board of Regents of the College by two of its members, Frederick C. Cordes and Dean M. Lierle. It is hoped that this representation may help to avoid a future conflict in meeting dates, as has occurred this year, namely, the meeting dates of the Academy in Chicago for 1957 and those of the College at Atlantic City for 1957 are the same. In the past there has always been a near conflict, with the Academy either preceding or following the College meeting, but in spite of this an opportunity was given the members of each to participate in both if so desired.

There has been an active participation in the sectional meetings of the College by Fellows of the Academy throughout the country. These have been good programs, which were well attended.

As the end of my term of office is approaching, I should like to express my appreciation to the Academy for the privilege of being one of its representatives on the Board of Governors of the American College of Surgeons.

REPORT ON AMERICAN COMMITTEE ON OPTICS AND VISUAL PHYSIOLOGY

KENNETH C. SWAN, M.D.
Senior Representative

As the senior representative I am submitting to the American Academy of Ophthalmology and Otolaryngology a report of the American Committee on Optics and Visual Physiology for the past year. Other representatives of the American Academy are Dr. F. C. Cordes and Dr. J. E. Lebensohn. Also there are representatives from the Section on Ophthalmology of the American Medical Association, the American Ophthalmological Society, and the Association for Research in Ophthalmology. During the past year Dr. C. Berens has served as chairman, and Dr. G. Fonda as secretary-treasurer. Other members of the Committee include Dr. M. L. Kauffman, Dr. A. Linksz, Dr. H. Burian, Dr. W. C. Owens, Dr. H. A. Imus, Dr. K. N. Ogle, and Dr. V. A. Byrnes.

The Committee met in Chicago on October 15, 1956, and at Hot Springs, Virginia, on May 30, 1957. A history of the activities of the American Committee on Optics and Visual Physiology has recently been prepared by a subcommittee under the chairmanship of Dr. Cordes. This history will be published in the American Journal of Ophthalmology in 1957. It summarizes the activities of the Committee since its inception in 1927 as the Committee on Optometry. The Committee's activities have expanded to include nearly every aspect of optics, illumination, and visual physiology of concern to ophthalmologists. The history of the relationships of the Committee with representatives of optometry during the past twenty years will be of particular value during this period of renewed discussion of interprofessional relationships.

A subcommittee on Low Vision Lenses composed of Dr. G. Fonda, chairman, Dr. K. Ogle and Dr. L. Sloan, is continuing its studies and has made two progress reports. The chairman recently stated that "the general emphasis seems to be on high-powered, elaborate lens systems even though 80 per cent of subnormal patients can be corrected by conventional or strong plus lenses. Many of these unfortunate patients are being sold expensive doublet lenses or telescopic spectacles when a single strong plus lens would serve them as well or better." This statement applies to lenses for near vision.

In June 1957 a subcommittee for Research in Visual Acuity in Myopia, composed of Dr. Berens and Dr. Fonda, working with Dr. S. Sells, reported the evaluation of tachistoscopic training effects on visual acuity, refractive error and anisometropia, form field and reading speed.

Other active subcommittees are concerned with studies of the standardization of reading types, procedures for screening tests for color vision, standardization of ophthalmic lenses, traffic safety, use of atropine in the treatment of myopia, and possible radiation hazards from television sets.

Your Committee respectfully recommends:

1. That the American Academy of Ophthalmology and Otolaryngology continue its sponsorship of the American Committee on Optics and Visual Physiology.

2. That the American Academy of Ophthalmology and Otolaryngology continue its financial support to the American Committee on Optics and Visual Physiology in the amount of $200.00 per year for general secretarial and office expenditures.

3. That Dr. K. C. Swan be reappointed as representative of the American Academy of Ophthalmology and Otolaryngology.

REPORT ON THE AMERICAN ORTHOPTIC COUNCIL

JOHN W. HENDERSON, M.D.
FRANK D. COSTENBADER, M.D.
and
PHILIP KNAPP, M.D.
Academy Representatives

The twenty-second annual meeting of the American Orthoptic Council was held in Chicago on October 13, 1956, with Dr. Hermann M. Burian presiding. The actions of the Council at that meeting and subsequently are recorded below.

During the year 1956, the American Academy of Ophthalmology and Otolaryngology was represented by Dr. John W. Henderson, Dr. Frank D. Costenbader, and Dr. Philip Knapp. Dr. Henderson served on the Committee on Instruction in 1956, and will serve as Editor of the American Orthoptic Journal beginning in January 1957. Dr. Costenbader continues to serve on the Honor Certification Committee and as chairman of the Committee on Examinations. As of January 1, 1957, he is serving as a member of the Nominations Committee. Dr. Knapp will continue serving the Council as chairman of the Committee on Publications and Exhibits, and will serve as chairman of the Committee on Ethics beginning in January 1957.

The significant activities of the American Orthoptic Council for the year 1956-1957:

1. The annual two-month intensive course in orthoptics for orthoptic technicians has been continued. In the summer of 1956, the course was held in Iowa City under the direction of Dr. Hermann M. Burian. Several members of the Orthoptic Council acted as instructors. There were twenty-three students enrolled. The demand for technicians still exceeds the supply. The Council plans to further the training of more technicians by continuing the course in future years. Furthermore, the Council has been instrumental in helping various ophthalmological centers set up training programs of their own. In this way, it is hoped that more technicians will be available in future years. The Council would like to point out, however, that the number of students trained each year barely replaces those who leave the practice of orthoptics for various reasons, and that the best way for an ophthalmologist to obtain the services of an orthoptic technician is for him to find a prospective student from his own locality and send her for her orthoptic training.

2. The annual examination of orthoptic technician candidates was conducted by the Council on Saturday, October 13, 1956, in Chicago. Twenty-one of the twenty-two candidates completed the examination successfully and were certified by the Council.

3. The annual meeting sponsored by the American Orthoptic Council and the American Association of Orthoptic Technicians in conjunction with the American Academy of Ophthalmology and Otolaryngology was held Sunday, October 14, 1956. Speakers at this meeting and their topics were:

   Dr. William E. Krewson, III, Philadelphia—"Ocular Torticollis"

   Miss Josephine Kukora, Detroit—"Anomalous Retinal Correspondence, Diagnostic Tests and Therapy"

   Dr. Goodwin M. Breinin, New York—"Electrophysiologic Insight in Ocular Motility"

   Miss Eleanor C. Anderson, San Diego—"The Television Trainer in Fusion Training"

4. For the past two years, the Council has been engaged in revising the orthoptic teaching syllabus, and it is expected that the new syllabus will be ready for printing shortly. It will provide a satisfactory outline for study for various training centers and will tend to standardize the training given at different centers. It is the hope of the Council that the syllabus may be expanded into an orthoptic textbook eventually.

5. The instruction courses for orthoptic technicians given at the time of the meeting of the American Academy of Ophthalmology and Otolaryngology, and presented by various ophthalmologists and orthoptic technicians, were enthusiastically received.

6. The American Association of Orthoptic Technicians reports that regional meetings of the Association were held in the spring of 1956 in Seattle, Washington; Jackson, Mississippi; San Diego, California; Bloomington, Illinois; and Boston, Massachusetts. All were well attended. In addition, the Association sponsored orthoptic exhibits at the following meetings:

The National Society for the Prevention of Blindness
The Pacific Coast Ophthalmological Society
The Colorado Children's Hospital Midsummer Clinic
The Colorado Ophthalmology Summer Course
The American Medical Association

7. The Lancaster Award Medal was presented this year by the American Association of Orthoptic Technicians to Mrs. Louisa Wells Kramer, Washington, D. C.

8. The seventh issue of the American Orthoptic Journal is in process of being readied for distribution under the editorship of Dr. William E. Krewson, III, of Philadelphia. The Journal is published through the cooperation of the American Academy of Ophthalmology and Otolaryngology and is distributed through its TRANSACTIONS.

9. The pamphlet on orthoptics as a profession, prepared by the Council, was mailed to 593 junior colleges, 171 vocational guidance counselors, and innumerable individuals requesting information on orthoptics. Copies are available upon request to the Secretary's office.

10. The President and Secretary of the Council jointly prepared a statement defining the present status of the practice of orthoptics by orthoptic technicians and emphasizing the reasons why orthoptics is a medical rather than an optometrical problem. The statement was prepared for the National Medical Foundation for Eye Care with the idea that it would be used by them in combating attempts by organized optometry to widen the definition of optometry to include orthoptics.

11. During the year 1956-1957, the American Orthoptic Council made application to the National Institute of Health for a research grant and asked that a committee be appointed to determine the following: (a) the desirability of a study to evaluate the efficacy of the nonsurgical treatment of neuromuscular anomalies of the eyes in all its aspects and in its relation to surgical treatment; (b) if it were found desirable that such a study should be carried out, to determine the form which it should take. This application was rejected.

In spite of this, the American Orthoptic Council still feels that a critical evaluation of the nonsurgical treatment of strabismus is imperative, and is hopeful that such a study may yet be made.

Officers elected to serve in 1957 are:

President .....Dr. William E. Krewson, III, Philadelphia

Vice-President .....Dr. Philip Knapp New York City

Secretary-Treasurer ....Dr. Edmond L. Cooper Detroit

The American Orthoptic Council is appreciative of the continued interest and support of the American Academy of Ophthalmology and Otolaryngology.

Your Committee respectfully recommends:

1. That the American Academy of Ophthalmology and Otolaryngology participate in the setting up of a program to evaluate the nonsurgical treatment of strabismus. During the past twenty years or so, orthoptic training was developed into a definite auxiliary branch of ophthalmology. Those who have followed this development closely feel that it has contributed materially to improvement in the handling of patients with neuromuscular anomalies. However, the American Orthoptic Council realizes that one of the major problems in ophthalmology which awaits evaluation and solution is the problem of nonsurgical treatment of these anomalies and, more particularly, the problem of orthoptic treatment of these anomalies; and that, as yet, the value of the present methods of treatment is by no means clearly established. It is specifically recommended, therefore, that the American Academy of Ophthalmology and Otolaryngology designate a committee to lay the ground work for such a study as the Council has envisaged. When sufficient organization and data are available, it is hoped that the Academy will aid in the application for funds from the National Institutes of Health for the completion of a long-term survey.
2. That the American Academy of Ophthalmology and Otolaryngology continue its sponsorship of the American Orthoptic Council and that it appoint Dr. John W. Henderson of Ann Arbor, Michigan, for a period of three years beginning January 1, 1958.
3. That the American Academy of Ophthalmology and Otolaryngology support the American Orthoptic Council in the amount of two hundred dollars ($200.00) for the year 1957-1958.

REPORT ON THE AMERICAN STANDARDS ASSOCIATION, ACOUSTICAL STANDARDS BOARD

GORDON D. HOOPLE, M.D.
Academy Representative

The American Standards Association, Acoustical Standards Board, has undergone reorganization this last year and the undersigned has not attended any meetings of this Board.

Prior to this year, the Acoustical Standards Board was a large Committee of the American Standards Association which considered standards in all fields of acoustics, including many outside of the area involved in otologic acoustics. The work of this Committee is to be divided into three separate Committees, one of which will consider matters in the area of acoustics as related to otology. The representative of the Academy to the American Standards Association will serve on this particular Divisional Committee. There have been no meetings of this Divisional Committee since its formation so there is no report to make of its activities for this year.

REPORT ON COMMITTEE FOR STANDARDIZATION OF OPHTHALMIC LENSES

CARL J. RUDOLPH, M.D.
Academy Representative

The proposed British Standard for spectacle lenses has been accepted and is now known as British Standard 2738. [A copy is in the permanent files of the Academy.]

The year 1957 has seen considerable activity by the Lens Technical Subcommittee of the Optical Manufacturers Association in response to the many suggestions made by the Z80 Committee in their September 24, 1956, meeting. Several meetings have been held by the Lens Technical Committee since, in an effort to determine how closely the manufacturers can adhere to the desires of the Z80 Committee in tightening their controls. Recommendations of the O.M.A. will be sent to each member of the Committee for study prior to the time of their next meeting.

A process of such magnitude must necessarily move slowly in order to be well advised.

REPORT ON JOINT COMMITTEE ON EYE BANKS

A. E. BRALEY, M.D.
J. H. KING, JR., M.D.
Academy Representatives

The Joint Committee on Eye Banks has held one meeting in New York at the Manhattan Eye and Ear Infirmary. The committee is still in its organizational phase. The pamphlet was prepared for distribution to the members of the committee in order to outline the scope of the Eye Bank program. There was considerable discussion as to the number of Eye Banks that should be distributed around the country. A meeting will be held during the time of the Academy Meeting in Chicago.

REPORT ON THE NATIONAL COMMITTEE FOR RESEARCH IN OPHTHALMOLOGY AND BLINDNESS

BERNARD BECKER, M.D.
A. EDWARD MAUMENEE, M.D.
Academy Representatives

The intensive interest in ophthalmology and blinding diseases as well as the increased availability of funds prompted the organization of the National Committee for Research in Ophthalmology and Blindness. It is the purpose of this Committee to encourage investigations concerning diseases of the eye. Medical representatives on the committee consist of two members from each of the four national ophthalmic organizations (American Academy of Ophthalmology and Otolaryngology, American Ophthalmological Society, Association for Research in Ophthalmology, and the Section on Ophthalmology of the American Medical Association).

During the past year several informal discussions have been held by these representatives, and there was one meeting with representatives of eighteen interested lay organizations. This resulted in the formulation of the following chief purposes of the committee:

1. To serve as a forum or clearing center for groups interested in ophthalmic research.
2. To integrate present efforts in promoting research in ophthalmology and blinding diseases.
3. To provide consultation concerning ophthalmic research to groups requesting such advice.

It is hoped that valuable assistance to those interested in research in ophthalmology can be provided along such lines as listings of funds available and research projects in existence, the determination of the incidence of blinding diseases and the areas needing research, and the encouragement of training of workers and technicians as well as their placement.

It is not the purpose of the National Committee for Research in Ophthalmology and Blindness to solicit funds for research or to interfere with activities of any organization in the field of public relations, service, education, or research in ophthalmology.

The committee has appreciated the support of the American Academy of Ophthalmology and Otolaryngology. We consider it a privilege to have represented the Academy during the past year on this important committee and recommend continued support and the appropriation of $500.

PAST OFFICERS OF THE ACADEMY

Date	President	First Vice-President	Treasurer	Secretary	Meeting Place
1896—	Adolph Alt St. Louis, Mo.	W. C. Pipino Des Moines, Iowa	W. L. Dayton Lincoln, Neb.	Hal Foster Kansas City, Mo.	Kansas City, Mo.
1897—	Adolph Alt St. Louis, Mo.	W. C. Pipino Des Moines, Iowa	W. L. Dayton Lincoln, Neb.	Hal Foster Kansas City, Mo.	St. Louis
1898—	B. E. Fryer Kansas City, Mo.	J. E. Colburn Chicago, Ill.	W. L. Dayton Lincoln, Neb.	Hal Foster Kansas City, Mo.	Chicago
1899—	J. E. Colburn Chicago, Ill.	W. Scheppegrell St. Louis, Mo.	W. L. Dayton Lincoln, Neb.	Thomas A. Woodruff Chicago, Ill.	New Orleans
1900—	W. Scheppegrell St. Louis, Mo.	M. A. Goldstein St. Louis, Mo.	W. L. Dayton Lincoln, Neb.	Fayette C. Ewing St. Louis, Mo.	St. Louis
1901—	M. A. Goldstein St. Louis, Mo.	H. W. Wurdemann Milwaukee, Wis.	W. L. Dayton Lincoln, Neb.	W. L. Ballenger Chicago, Ill.	Cincinnati
1902—	C. R. Holmes Cincinnati, Ohio	W. L. Dayton Lincoln, Neb.	Otto Stein Chicago, Ill.	W. L. Ballenger Chicago, Ill.	Chicago
1903—	W. L. Ballenger Chicago, Ill.	C. J. Stillson Indianapolis, Ind.	Otto Stein Chicago, Ill.	Derrick Vail Cincinnati, Ohio	Indianapolis
1904—	Edward Jackson Denver, Colo.	Dudley Reynolds Louisville, Ky.	Otto Stein Chicago, Ill.	Derrick Vail Cincinnati, Ohio	Denver
1905—	Hanau Loeb St. Louis, Mo.	Derrick Vail Cincinnati, Ohio	Otto Stein Chicago, Ill.	George F. Suker Chicago, Ill.	Buffalo
1906—	Casey Wood Chicago, Ill.	J. A. Stucky Lexington, Ky.	Otto Stein Chicago, Ill.	George F. Suker Chicago, Ill.	St. Clair, Mich.

PAST OFFICERS OF THE ACADEMY

Date	President	First Vice-President	Treasurer	Secretary	Meeting Place
1907—	J. A. Stucky Lexington, Ky.	R. A. Reeve Toronto, Canada	Otto Stein Chicago, Ill.	George F. Suker Chicago, Ill.	Louisville
1908—	Derrick Vail Cincinnati, Ohio	Joseph Beck Chicago, Ill.	Otto Stein Chicago, Ill.	George F. Suker Chicago, Ill.	Cleveland
1909—	Otto Stein Chicago, Ill.	Percy Fridenberg New York, N. Y.	S. H. Large Cleveland, Ohio	George F. Suker Chicago, Ill.	New York
1910—	Wendell Reber Philadelphia, Pa.	L. B. Lockhard Denver, Colo.	S. H. Large Cleveland, Ohio	George F. Suker Chicago, Ill.	Cincinnati
1911—	J. J. Kyle Indianapolis, Ind.	F. Parke Lewis Buffalo, N. Y.	S. H. Large Cleveland, Ohio	George F. Suker Chicago, Ill.	Indianapolis
1912—	George F. Suker Chicago, Ill.	J. W. Murphy Cincinnati, Ohio	S. H. Large Cleveland, Ohio	L. M. Francis Buffalo, N. Y.	Niagara Falls, Ont.
1913—	J. W. Murphy Cincinnati, Ohio	J. O. McReynolds Dallas, Texas	S. H. Large Cleveland, Ohio	L. M. Francis Buffalo, N. Y.	Chattanooga
1914—	J. M. Ray Louisville, Ky.	J. M. Ingersoll Cleveland, Ohio	S. H. Large Cleveland, Ohio	L. M. Francis Buffalo, N. Y.	Boston
1915—	Joseph Beck Chicago, Ill.	Robert S. Lamb Washington, D.C.	S. H. Large Cleveland, Ohio	L. M. Francis Buffalo, N. Y.	Chicago
1916—	J. E. Brown Columbus, Ohio	T. E. Carmody Denver, Colo.	S. H. Large Cleveland, Ohio	L. M. Francis Buffalo, N. Y.	Memphis
1917—	W. L. Dayton Lincoln, Neb.	Edward Stieren Pittsburgh, Pa.	S. H. Large Cleveland, Ohio	L. M. Francis Buffalo, N. Y.	Pittsburgh
1918—	Allen Greenwood Boston, Mass.	Virginius Dabney Washington, D.C.	S. H. Large Cleveland, Ohio	L. M. Francis Buffalo, N. Y.	Denver

PAST OFFICERS OF THE ACADEMY

Date	President	First Vice-President	Treasurer	Secretary	Meeting Place
1919—	J. M. Ingersoll Cleveland, Ohio	Melville M. Black Denver, Colo.	S. H. Large Cleveland, Ohio	Luther C. Peter Philadelphia, Pa.	Cleveland
1920—	L. M. Francis Buffalo, N. Y.	Hal Foster Kansas City, Mo.	S. H. Large Cleveland, Ohio	Luther C. Peter Philadelphia, Pa.	Kansas City, Mo.
1921—	Emil Mayer New York, N. Y.	John R. Newcomb Indianapolis, Ind.	S. H. Large Cleveland, Ohio	Luther C. Peter Philadelphia, Pa.	Philadelphia
1922—	Walter R. Parker Detroit, Mich.	Ross H. Skillern Philadelphia, Pa.	S. H. Large Cleveland, Ohio	Luther C. Peter Philadelphia, Pa.	Minneapolis and St. Paul
1923—	T. E. Carmody Denver, Colo.	Hunter H. McGuire Winchester, Va.	S. H. Large Cleveland, Ohio	Luther C. Peter Philadelphia, Pa.	Washington, D. C.
1924—	W. B. Lancaster Boston, Mass.	William P. Wherry Omaha, Neb.	S. H. Large Cleveland, Ohio	Luther C. Peter Philadelphia, Pa.	Montreal
1925—	Horace Newhart Minneapolis, Minn.	John M. Wheeler New York, N. Y.	S. H. Large Cleveland, Ohio	Luther C. Peter Philadelphia, Pa.	Chicago
1926—	E. C. Ellett Memphis, Tenn.	Austin A. Hayden Chicago, Ill.	S. H. Large Cleveland, Ohio	Luther C. Peter Philadelphia, Pa.	Colorado Springs
1927—	Ross Hall Skillern Philadelphia, Pa.	H. W. Woodruff Joliet, Ill.	S. H. Large Cleveland, Ohio	William P. Wherry Omaha, Neb.	Detroit
1928—	Luther C. Peter Philadelphia, Pa.	Frank L. Dennis Colorado Springs, Colo.	S. H. Large Cleveland, Ohio	William P. Wherry Omaha, Neb.	St. Louis
1929—	Harris P. Mosher Boston, Mass.	Frank E. Burch St. Paul, Minn.	S. H. Large Cleveland, Ohio	William P. Wherry Omaha, Neb.	Atlantic City
1930—	William H. Wilder Chicago, Ill.	Frank R. Spencer Boulder, Colo.	S. H. Large Cleveland, Ohio	William P. Wherry Omaha, Neb.	Chicago

PAST OFFICERS OF THE ACADEMY

Date	President	First Vice-President	Ex. Sec'y-Treas.	Comptroller	Meeting Place
1931—	John F. Barnhill Miami Beach, Fla.	Meyer Wiener Coronado, Calif.	William P. Wherry Omaha, Neb.	S. H. Large Cleveland, Ohio	French Lick, Ind.
1932—	S. Hanford McKee Montreal, Canada	Gordon B. New Rochester, Minn.	William P. Wherry Omaha, Neb.	S. H. Large Cleveland, Ohio	Montreal
1933—	Burt R. Shurly Detroit, Mich.	Nelson Miles Black Miami, Fla.	William P. Wherry Omaha, Neb.	S. H. Large Cleveland, Ohio	Boston
1934—	John M. Wheeler New York, N. Y.	LeRoy A. Schall Boston, Mass.	William P. Wherry Omaha, Neb.	S. H. Large Cleveland, Ohio	Chicago
1935—	Wells P. Eagleton Newark, N. J.	W. Thornwall Davis Washington, D. C.	William P. Wherry Omaha, Neb.	S. H. Large Cleveland, Ohio	Cincinnati
1936—	Frank E. Burch St. Paul, Minn.	Gordon F. Harkness Davenport, Iowa	William P. Wherry Omaha, Neb.	S. H. Large Cleveland, Ohio	New York
1937—	Lee W. Dean St. Louis, Mo.	Bernard Samuels New York, N. Y.	William P. Wherry Omaha, Neb.	S. H. Large Cleveland, Ohio	Chicago
1938—	Harry S. Gradle Chicago, Ill.	E. M. Seydell Wichita, Kan.	William P. Wherry Omaha, Neb.	S. H. Large Cleveland, Ohio	Washington, D. C.
1939—	George M. Coates Philadelphia, Pa.	William W. Pearson Des Moines, Iowa	William P. Wherry Omaha, Neb.	S. H. Large Cleveland, Ohio	Chicago
1940—	Frank E. Brawley Chicago, Ill.	Arthur W. Proetz St. Louis, Mo.	William P. Wherry Omaha, Neb.	S. H. Large Cleveland, Ohio	Cleveland
1941—	Frank R. Spencer Boulder, Colo.	Everett L. Goar Houston, Texas	William P. Wherry Omaha, Neb.	S. H. Large Cleveland, Ohio	Chicago
1942—	Ralph I. Lloyd Brooklyn, N. Y.	Walter H. Theobald Chicago, Ill.	William L. Benedict Rochester, Minn.	S. H. Large Cleveland, Ohio	Chicago
1943—	James A. Babbitt Philadelphia, Pa.	Sanford R. Gifford Chicago, Ill.	William L. Benedict Rochester, Minn.	S. H. Large Cleveland, Ohio	Chicago

PAST OFFICERS OF THE ACADEMY

Date	President	First Vice-President	Ex. Sec'y-Treas.	Meeting Place
1944—	Lawrence T. Post St. Louis, Mo.	C. Stewart Nash Rochester, N. Y.	William L. Benedict Rochester, Minn.	Chicago
1945—	Gordon B. New Rochester, Minn.	Edmund B. Spaeth Philadelphia, Pa.	William L. Benedict Rochester, Minn.	Meeting Cancelled
1946—	Gordon B. New Rochester, Minn.	Edmund B. Spaeth Philadelphia, Pa.	William L. Benedict Rochester, Minn.	Chicago
1947—	Alan C. Woods Baltimore, Md.	Arthur C. Jones Boise, Idaho	William L. Benedict Rochester, Minn.	Chicago
1948—	Carl H. McCaskey Indianapolis, Ind.	Ralph O. Rychener Memphis, Tenn.	William L. Benedict Rochester, Minn.	Chicago
1949—	Conrad Berens New York, N. Y.	Fred W. Dixon Cleveland, Ohio	William L. Benedict Rochester, Minn.	Chicago
1950—	J. Mackenzie Brown Los Angeles, Calif.	Edwin B. Dunphy Boston, Mass.	William L. Benedict Rochester, Minn.	Chicago
1951—	Derrick Vail Chicago, Ill.	Francis E. LeJeune New Orleans, La.	William L. Benedict Rochester, Minn.	Chicago
1952—	James Milton Robb Detroit, Mich.	Georgiana Dvorak Theobald Oak Park, Ill.	William L. Benedict Rochester, Minn.	Chicago
1953—	Frederick C. Cordes San Francisco, Calif.	Thomas C. Galloway Evanston, Ill.	William L. Benedict Rochester, Minn.	Chicago
1954—	Walter H. Theobald Chicago, Ill.	Francis Heed Adler Philadelphia, Pa.	William L. Benedict Rochester, Minn.	New York

PAST OFFICERS OF THE ACADEMY

Date	President	First Vice-President	Ex. Sec'y-Treas.	Meeting Place
1955—	Algernon B. Reese New York, N. Y.	Philip E. Meltzer Boston, Mass.	William L. Benedict Rochester, Minn.	Chicago
1956—	A. C. Furstenberg Ann Arbor, Mich.	M. Hayward Post St. Louis, Mo.	William L. Benedict Rochester, Minn.	Chicago
1957—	Erling W. Hansen Minneapolis, Minn.	Louis H. Clerf St. Petersburg, Fla.	William L. Benedict Rochester, Minn.	Chicago

In Memoriam

Carl Clarence Chase.....Middletown, Connecticut
September 17, 1957

Leon C. Combacker.....Fergus Falls, Minnesota
October 1, 1957

G. S. Duntley.....Macomb, Illinois
October 14, 1957

Alexander Feher.....New York City, New York
September 6, 1957

Jerry M. Garber.....Marshfield, Ohio
September 30, 1957

Peter Augustus Keil.....Brooklyn, New York
October 13, 1957

Alan DeG. Knisely.....Lima, Ohio
August 31, 1957

Willis L. McConkie.....Carroll, Iowa
August 14, 1957

Harold R. Miller.....New York City, New York
December 9, 1957

Henry Boylan Orton.....Newark, New Jersey
September 1, 1957

Louis Ostrom.....Rock Island, Illinois
August 20, 1957

Clarence N. Peeler.....Charlotte, North Carolina
August 27, 1957

Linus Martin Ryan.....St. Louis, Missouri
September 12, 1957

Arthur L. Stotter.....Cleveland, Ohio
September 11, 1957

Baxter H. Timberlake.....Atlantic City, New Jersey
September 26, 1957

Charles Bernard Voigt.....Mattoon, Illinois
September 8, 1957

J. William Wright.....Indianapolis, Indiana

American Academy of Ophthalmology and Otolaryngology

Convention Attendance, October 13-18, 1957

STATE	MEMBERSHIP AS OF 3-1-57	FELLOWS	GUESTS	RESIDENTS	CANDIDATES	ORTHOPTIC TECHNICIANS	TOTAL
Alabama	63	29	8	1	3	2	43
Arizona	36	12	3				15
Arkansas	25	11	5		2	1	19
California	660	170	28	3	9	3	213
Colorado	89	34	9	1	1	2	47
Connecticut	108	32	9		2	1	44
Delaware	14	6					6
Dist. of Columbia	88	31	9	2	1	3	46
Florida	153	63	11	2	5	4	85
Georgia	74	35	12	1	1	2	51
Idaho	18	7			1		8
Illinois	360	290	194	129	13	10	636
Indiana	133	102	41	7	3	3	156
Iowa	84	50	15	4	1	5	75
Kansas	65	22	10	2	1		35
Kentucky	67	42	13	2	3		60
Louisiana	79	41	13	2	2	1	59
Maine	36	10	1			1	12
Maryland	82	42	11	10	2	2	67
Massachusetts	211	57	15	4	2	2	80
Michigan	229	134	56	28	4	18	240
Minnesota	139	78	14	5	3	3	103
Mississippi	39	14	5			1	20
Missouri	164	82	22	18	4	5	131
Montana	18	10	3				13
Nebraska	57	25	3	1	2		31
Nevada	10	1	3				4
New Hampshire	18	4	2				6
New Jersey	203	66	11	1	6	1	85
New Mexico	15	4					4
New York	906	266	66	25	9	14	380
North Carolina	83	21	7	1	3	1	33
North Dakota	16	7	2		1		10
Ohio	340	178	67	16	7	9	277
Oklahoma	42	18	2	1	2		23
Oregon	68	19	6			3	28
Pennsylvania	487	165	43	13	13	6	240
Rhode Island	22	7	1				8
South Carolina	42	18	3		2		23
South Dakota	13	9	1				10
Tennessee	97	46	10	5	3	1	65
Texas	268	108	21	6	5	1	141
Utah	32	13	1		1		15
Vermont	12	1	1				2
Virginia	90	25	7	2	2		36
Washington	87	24	9		2	2	37
West Virginia	48	19	3		2		24
Wisconsin	110	76	30	7	7	7	127
Wyoming	10	3	1				4
U. S. Territories	40	14	3			1	18
Canada	172	71	38	6	12	6	133
Foreign	45	4	33	2	2	1	42
TOTALS	6367	2616	881	307	144	122	4070
Ladies							1073
Technical Exhibitors							714
GRAND TOTAL							5857

INTERNATIONAL ASSOCIATION OF SECRETARIES OF OPHTHALMOLOGICAL AND OTOLARYNGOLOGICAL SOCIETIES

The Duties of the Secretary of an Eye, Ear, Nose and Throat Society

The office of secretary is the most important one in any organization. The secretary is the key man. The success of an organization depends largely upon his ability, interest and attention to detail.

1. The records of the organization should be complete and accurate. They should be typed and easily accessible.

2. The business reports to the society should cover important matters thoroughly but should be brief and limited. The members are not interested in detailed routine. Often the minutes should be dispensed with and the time be used to greater advantage.

3. The president invariably leans upon the secretary. He should have full information of all details for ready help and advice.

4. The secretary should be a member of practically all committees. His experience is a most valuable asset.

5. The secretary is of particular value to the program committee. He has information regarding former programs. He knows which ones were successful. He knows also which type of program is most appealing to his particular organization.

6. He should be continually searching for good programs. All sources of information regarding programs should be used: reference files, guest speakers, home talent. After choosing the subject, the best man available should be secured to present it. The entire year's program should be arranged in advance. The Academy Instructional Courses are an excellent source of material.

7. Other sources of programs are: case reports by local members, research or special accomplishments by local members, review of current literature, a hobby night, social meeting with wives, a pathology night. Organization of an auxiliary should be discouraged.

8. Dinner meetings preceded by a cocktail hour are of great value in establishing good fellowship. They will iron out petty jealousies and solidify membership.

9. The dues should include dinners. This will stimulate attendance.

10. The programs should be mailed and should have return cards for reservations to give an estimate of the expected attendance.

11. The constitution and by-laws should be as simple as possible.

12. Combined meetings with other groups are most desirable: the county society, the dental society, as well as other specialty groups. Especially successful will be an Eye, Ear, Nose and Throat Night at the county society meeting.

    Men from other specialties should be invited to certain meetings: pediatricians, roentgenologists, neurologists, internists, and so on. This

will help place the society on the map in local medical affairs. It will help unite various branches of medicine into more compact units, and will establish our specialties in their proper place in the practice of medicine.

13. Press announcements are educational. The laity is greatly interested in medical affairs. This will combat the influence of cults and patent medicines. Radio broadcasts have proved to be of considerable importance.

14. Society bulletins and news letters are good mediums to stimulate attendance.

15. There should be constant and complete cooperation with the American Academy of Ophthalmology and Otolaryngology. The programs and society activities should be reported to W. L. Benedict, M.D., Executive Secretary-Treasurer, 15 Second Street S.W., Rochester, Minn.

DANIEL S. DESTIO, M.D.
President

Letters to the Editor

November 21, 1957

Dear Dr. Benedict:

At the recent Academy Meeting, a most unfortunate notice was read before the Section on Otology, allegedly from Dr. Samuel Rosen, to the effect that Sturgis-Grant Productions had not finished his film in time to have it shown, and that, though ill, he would have come out with the film had our company met their commitments.

I wish to go on record as stating that this notice simply was not true. This company completed the film several days before the Meeting, having worked under considerable pressure because of lateness of the date when we were given this project; and it was Dr. Rosen's own decision that, since he felt it could be improved with more time and extra material inserted, he would not show it.

This statement, which has been reported to me by several people, is very damaging to us if left uncorrected in the minds of the audience who heard it. I personally was so astounded when several friends called to tell me about it, that I considered taking more drastic measures than merely writing letters. However, Dr. Rosen has apologized, and promised to write you the correct story, asking that the correction be published in the Annals.

I hope you will agree with me as to the seriousness of the allegation, from whatever source it came, and I certainly would appreciate it if you would publish a simple statement of the error, thus helping to clear our good name.

Sincerely yours,

[Signed] WARREN STURGIS

November 19, 1957

Dear Dr. Benedict:

The announcement made at the American Academy meeting that Sturgis-Grant had not met their date commitment for the presentation of my film at the meeting was an unfortunate error. They had in fact delivered the film on the date agreed but because the time in which they had to do the film was so short, crucial modifications had to be made before it could be properly shown at the meeting. I therefore decided not to show it then.

The film has just been completed after a herculean task by Sturgis-Grant, who again delivered it on the agreed date. I am leaving Saturday on a teaching trip around the world and will show the film during my travels.

Sincerely yours,

[Signed] SAMUEL ROSEN

THE INDEX TO THIS VOLUME HAS BEEN REMOVED FROM THIS POSITION AND PLACED AT THE BEGINNING OF THE FILM FOR THE CONVENIENCE OF THE READER.

BOOK REVIEW

A VISIT TO THE HOSPITAL. By Francine Chase, prepared under the supervision of Lester L. Coleman, M.D. Published by Grosset and Dunlap, New York, 1957. Sixty-eight pages. $1.50.

The emotional preparation of children for surgical procedures has been sadly neglected by both parents and surgeons in the past, and much psychic trauma has resulted. "A Visit to the Hospital," written by Francine Chase under the supervision of Lester L. Coleman, M.D., is a realistic account of one child's experiences with tonsillectomy that will be of incalculable help to parents in preparing their children for the same, or a similar, operation. The simple style and numerous illustrations will have an appeal to children of varying ages, and the book will do much to allay the anxiety and fear usually associated with operations, anesthesia, and parental separation. It can be highly recommended by surgeons to the parents whose children are undergoing their initial experience with surgical procedures or hospitalization.

HAVE YOU CHANGED YOUR ADDRESS?

To ensure uninterrupted delivery of your TRANSACTIONS, please return this coupon or send the same information on a post card to

American Academy of Ophthalmology and Otolaryngology
15 Second St. S.W., Rochester, Minnesota

Name.....

PLEASE PRINT

FORMER ADDRESS:	NEW ADDRESS:
Street.....	Street.....
City.....	City.....
Zone.....State.....	Zone.....State.....

For countries outside the United States:

.....

NAME OF COUNTRY

News - - - Notes

SCHOLARSHIP

Scholarships are being offered by the Delta Gamma Foundation for the training of orthoptic technicians, teachers of partially seeing children and specialists for blind preschool children. The deadline for application is May 1, 1958. For further information write to Delta Gamma Central Office, 50 W. Broad St., Columbus 15, Ohio.

AMERICAN BOARD OF OTOLARYNGOLOGY

The American Board of Otolaryngology will conduct only one examination in 1958. This examination will be given Oct. 6-9 at the Palmer House in Chicago.

COURSES AND CONFERENCES

CALIFORNIA: Stanford University School of Medicine will present the annual postgraduate conference in ophthalmology from March 31 through April 4, 1958. Registration will be open to physicians who limit their practice to the treatment of diseases of the eye, or eye, ear, nose and throat. In order to allow free discussion by members of the conference, registration will be limited to 30 members. Instructors will be Drs. Dohrmann K. Pischel, Jerome W. Bettman, Max Fine, Earle H. McBain and Arthur Jampolsky. For further information write to the Office of the Dean, Stanford University School of Medicine, 2398 Sacramento St., San Francisco 15.

MICHIGAN: The postgraduate conference in otolaryngology at the University of Michigan Medical School will be held April 17-19. The ophthalmology conference will be held April 21-23. For further information contact John M. Sheldon, M.D., Director, Department of Postgraduate Medicine, University of Michigan Medical School, Room 1610, University Hospital, Ann Arbor, Michigan.

OHIO: The department of otolaryngology of the University of Cincinnati College of Medicine announces a course in Reconstructive Surgery of the Nasal Septum and External Pyramid. The course will be under the direction of Dr. Maurice H. Cottle, professor of otolaryngology at the Chicago Medical School, and a selected faculty in association with the American Rhinologic Society. Tuition is $350.00 for the period April 12-19, 1958. Class membership is limited. Please apply to Henry M. Goodyear, M.D., Professor of Otolaryngology, College of Medicine, Eden and Bethesda Aves., Cincinnati 19.

PLASTIC SURGERY

The American Society of Facial Plastic Surgery will hold its annual spring meeting on March 10 and 11, 1958, in Columbus, Ohio. For further information contact Samuel M. Bloom, M.D., Secretary, American Society of Facial Plastic Surgery, 123 E. 83rd St., New York 28.

INTERNATIONAL CONGRESS OF OPHTHALMOLOGY

The National Institute of Neurological Diseases and Blindness has established a special travel fund designed to aid younger ophthalmologists and other scientists engaged in ophthalmological teaching or research to attend the XVIII International Congress of Ophthalmology to be held in Brussels, Belgium, Sept. 8-12, 1958.

All applications for aid from the fund should be made in letter form and addressed to Gordon H. Seger, M.D., Chief, Extramural Programs, National Institute of Neurological Diseases and Blindness, Bethesda, Md. The letter of application should provide a brief review of the applicant's educational and occupational background and should indicate his major field of interest. The deadline for the receipt of applications is March 1. Those to receive aid will be notified by letter no later than April 1, 1958.

The Asia-Pacific Academy of Ophthalmology is sponsoring a good-will tour to countries of the Orient following the XVIII International Congress of Ophthalmology in Brussels. The purpose of the one-month tour is to hold joint meetings with ophthalmologists in India, Pakistan, Burma, Thailand, the Philippines, Hong Kong, and Japan. This tour is expected

to create much interest among ophthalmologists in the countries to be visited and contribute greatly to American-Asiatic medical rapprochement. If you wish to present a paper at these meetings or just want further information write William John Holmes, M.D., Liaison Secretary, Suite 280, Alexander Young Bldg., Honolulu 13, Hawaii.

ILLINOIS

The Chicago Ophthalmological Society will hold its annual clinical conference Feb. 21-22, 1958, at the Drake Hotel. The program will include a symposium on the complications of ophthalmic surgery, the zonule of the lens, glaucoma and retinal detachment surgery, plastic surgery techniques, management of glaucoma and cataract, melanotic tumors of the iris, and the structure of the vitreous.

Guest speakers include Drs. Wendell L. Hughes of Hempstead, N. Y., P. Robb McDonald of Philadelphia, Phillips Thygeson of San Jose, Calif., Lorenz E. Zimmerman of Washington, D. C., and Eugene R. Folk, Orville E. Gordon, William F. Hughes, Peter C. Kronfeld, David Shoch, Derrick Vail, and Howard L. Wilder, all of Chicago.

Registration fee for the entire course, including round table luncheons and buffet supper, is $45.00. This sum is payable to the Registrar, Mrs. Edward J. Ryan, 1150 N. Lorel Ave., Chicago 51.

Dr. Phillips Thygeson of San Jose, Calif., will deliver the fourteenth annual Sanford R. Gifford Memorial Lecture Feb. 21, 1958, at 5:15 p.m. at the Drake Hotel in Chicago. All ophthalmologists are invited to attend the lecture and the buffet supper which will follow.

INDIA

The next meeting of the All-India Ophthalmological Society will be held at Indore, Feb. 13-15, 1958. The program will cover numerous phases of ophthalmology with particular attention given to the treatment of glaucoma.

INDIANA

Drs. Hugh and Hedie Kuhn of Hammond, Indiana, were visitors in Australia in the summer of 1957. Dr. Hedie addressed the Australian Section of the British Industrial Medical Society, the Adelaide Eye, Ear, Nose and Throat Society, and the Australian Ophthalmological Society. She was made an Honorary Member of the Australian Ophthalmological Society.

NEW YORK

The annual Participating Conference of the New York Society for Clinical Ophthalmology will be held at the Waldorf-Astoria Hotel March 28-29, 1958. The registration fee, which includes luncheons, is $50.00. Those interested should contact the Registrar, Miss Gloria Benabo, 737 Park Ave., New York.

OKLAHOMA

The Oklahoma City Academy of Ophthalmology and Otolaryngology will hold its fifth annual spring meeting March 6-7, 1958, in the main auditorium of the University of Oklahoma School of Medicine. Dr. Joseph A. Haas of Chicago is the guest speaker in ophthalmology. Dr. Herman Semenov, Beverly Hills, Calif., is the guest speaker in otolaryngology. Further details can be obtained from E. N. Robertson, Jr., M.D., 301 N.W. 12th St., Oklahoma City.

TEXAS

Dr. Everett L. Goar has been elected an honorary member of the Alumni Association of the New York Eye and Ear Infirmary in recognition of his outstanding contributions to teaching and research in ophthalmology.

POSITIONS AVAILABLE

OPHTHALMOLOGY: An ophthalmologist is wanted to associate in independent practice with four other specialists in the Pacific Northwest. Sixteen GPs in an immediate area for referral practice. Immediate large volume practice without any waiting period. Contact Pero Medical Center, 3125 Colby, Everett, Wash.

OPHTHALMOLOGY: The members of the staff of a new Pennsylvania hospital are looking for a well-trained ophthalmologist to join the staff and set up practice in the community. The area population is about 100,000 and there is no comparable medical center within 65 miles. At present, only one certified ophthalmologist is practicing in the area. For further information contact Leo H. Roszell, M.D., 14 Valley St., Lewistown, Pa.

Listings of positions available should be sent to W. L. Benedict, M.D., 15 Second Street S.W., Rochester, Minn., by the fifth of the month preceding publication. They should include (1) type of physician wanted (ophthalmologist or otolaryngologist: diplomate, resident, etc.); (2) type of position to be filled; and (3) whom to write for further information. Unless otherwise requested, listings will be published only once.

The Academy will handle no further correspondence beyond the listing and assume no responsibility. Neither does it endorse nor guarantee any of the published listings.

DIRECTORY OF OPHTHALMOLOGIC AND OTOLARYNGOLOGIC SOCIETIES

Secretaries of Societies are requested to furnish the information necessary to make this list complete and keep it up to date. Send to TRANSACTIONS, *American Academy of Ophthalmology and Otolaryngology,* 15 *Second St. S.W., Rochester, Minn.*

EXAMINING AND CERTIFYING BODIES

American Board of Ophthalmology

Chairman: Dr. Brittain F. Payne
Secretary: Dr. Merrill J. King, Box 236, Cape Cottage Branch, Portland 9, Maine
Written Examination: January 1958.

American Board of Otolaryngology

President: Dr. Gordon D. Hoople
Secretary-Treasurer: Dr. Dean M. Lierle, University Hospitals, Iowa City, Iowa
Oral Examination: October 6-9, 1958; Palmer House, Chicago

American Board of Plastic Surgery

Chairman: Dr. James T. Mills
Secretary-Treasurer: Dr. Bradford Cannon, 330 Dartmouth St., Boston 16
Corresponding Secretary: Estelle E. Hillerich, 4647 Pershing Ave., St. Louis 8
Time and Place: May 18-20, 1958; Galveston, Texas

Brazilian Board of Ophthalmology

Chairmen: Prof. Moacyr E. Alvaro
Prof. Cyro de Rezende
General Secretaries: Dr. Rubens Belfort Mattos, Caixa Postal 4086, Sao Paulo, Brazil
Dr. Sylvio de Almeida Toledo, Braulio Gomes 25, Sao Paulo, Brazil

The Royal College of Physicians and Surgeons of Canada

President: Dr. Robert M. Janes
Honorary Secretary: Dr. James H. Graham, 150 Metcalfe St., Ottawa 4, Ont., Canada

INTERNATIONAL

Concilium Ophthalmologicum Universale (International Council of Ophthalmology)

President: Sir Stewart Duke-Elder
Secretary: Prof. Dr. Edward Hartmann, 2 Ave. Ingres, Paris (16e), France
Time and Place: The Council meets at the time and place of each International Congress (usually every 4 years) and other years alternately in Paris and London

Eighteenth International Congress of Ophthalmology

President: Dr. Léon Coppez
General Secretary: Prof. Jules Francois, 15, place de Smet de Naeyer, Gand, Belgium
Time and Place: September 8-12, 1958; Brussels, Belgium

International Association of Secretaries of Ophthalmological and Otolaryngological Societies

President: Dr. Daniel S. DeStio
Secretary-Treasurer: Dr. Edley H. Jones, 1301 Washington St., Vicksburg, Miss.
Time and Place: October 14, 1958; Palmer House, Chicago

International Association for the Prevention of Blindness

President: Prof. A. Franceschetti
Secretary: Dr. J. P. Bailliart, 47 rue de Bellechasse, Paris VII, France
Time and Place: 1960; Caracas, Venezuela (Jointly with Pan-American Association of Ophthalmology)

International Congress of Bronchoesophagology

President: Dr. Jo Ono
Secretary: Dr. Chevalier L. Jackson, 3401 N. Broad St., Philadelphia 40
Time and Place: September 1958; Tokyo, Japan

International College of Surgeons, Section of Ophthalmology and Otolaryngology

President: Dr. E. G. Gill
Secretary: Dr. Louis Savitt, 3403 Lawrence Ave., Chicago 25
Time and Place: March 9-13, 1958; Los Angeles

International Federation of Ophthalmological Societies

President: Sir Stewart Duke-Elder
Secretary: Prof. Dr. Edward Hartmann, 2 Ave. Ingres, Paris (16e), France
Time and Place: September 8-12, 1958; Brussels, Belgium

International Organization Against Trachoma

President: Prof. G. B. Bietti
Secretary-General: Jean Sedan, 94 rue Sylvabelle, Marseilles, France
Time and Place: September 8-12, 1958; Brussels, Belgium

Pan-American Association of Ophthalmology

President: Dr. Brittain F. Payne
Secretaries: For North of Panama: Dr. J. Wesley McKinney, Exchange Bldg., Memphis, Tenn.
For South of Panama: Dr. Jorge Balza, Azcuenaga 1059, Buenos Aires, Argentina
Time and Place: *Sixth Pan-American Congress of Ophthalmology;* 1960, Caracas, Venezuela (Jointly with National Society for the Prevention of Blindness)

PAN-AMERICAN ASSOCIATION OF OTO-RHINO-LARYNGOLOGY AND BRONCHO-ESOPHAGOLOGY
President: Dr. José Gros
Secretary: Dr. Chevalier L. Jackson, 3401 N. Broad St., Philadelphia 40, Pa.
Time and Place: *Sixth Pan-American Congress of Oto-Rhino-Laryngology and Broncho-Esophagology;* Brazil, 1958

SEVENTH INTERNATIONAL CONGRESS OF OTOLARYNGOLOGY
President: To be chosen
Secretary: To be chosen
Time and Place: 1961; Paris, France

FOREIGN

Argentina

SOCIEDAD ARGENTINA DE OFTALMOLOGIA
President: Dr. Hector R. Picoli
Secretary: Dr. Alberto F. Arata, Santa Fé, 1171, Buenos Aires
Time and Place: Third Wednesday of every month; Buenos Aires

Australia

OPHTHALMOLOGICAL SOCIETY OF AUSTRALIA
President: Dr. Michael Schneider
Secretary: Dr. Peter A. Rogers, 27 Commonwealth St., Sydney
Time and Place: October 6-12, 1958; Adelaide, So. Australia

Austria

OSTERREICHISCHE OTO-LARYNGOLOGISCHE GESELLSCHAFT
(AUSTRIAN OTOLARYNGOLOGICAL SOCIETY)
President: Prof. Dr. Emil Schlander
Secretary: Dr. Julius Popper, Schottenring 17, Vienna 1
Time and Place: First Tuesday of the month; Vienna General Hospital, Alserstrasse 4, Vienna 9

OSTERREICHISCHEN OPHTHALMOLOGICHEN GESELLSCHAFT
President: Prof. Dr. Josef Böck
Secretary: Dr. Franz Schwab, I Universitäts Augënklinik, Spitalgasse, 2, Vienna 9
Time and Place: January 1958; Innsbruck

OPHTHALMOLOGISCHE GESELLSCHAFT IN WIEN
(VIENNA OPHTHALMOLOGICAL SOCIETY)
President: Prof. Dr. Josef Böck
Secretary: Dr. Hans Rotter, II Universitäts Augënklinik, Alserstrasse 4, Vienna 9
Time and Place: January 13, March 10, April 14, May 12, and June 9, 1958; Vienna

Belgium

SOCIETAS OPHTHALMOLOGICA EUROPAEA
President: Dr. Paul Bailliart
Secretary: Prof. Jules Francois, Place de Smet de Naeyer 15, Ghent, Belgium
Time and Place: 1960; Athens

SOCIETE BELGE D'OPHTALMOLOGIE
Secretary: Prof. Dr. M. Appelmans, 179 Ave. Reulens, Louvain, Brussels

Brazil

SOCIEDADE BRASILEIRA DE OFTALMOLOGIA
President: Dr. José Barbosa da Luz
Secretaries: Dr. Paulo Veloso, Dr. A. Procopio Teixeira, Dr. Antonio Giardulli

CENTRO DE ESTUDOS DE OFTALMOLOGIA
President: Dr. Rubens Belfort Mattos
Secretary: Dr. Renato de Toledo, Rua Condessa de Sao Joaquim 288, Sao Paulo
Time and Place: Every Tuesday; Rua Condessa de Sao Joaquim 288, Sao Paulo

SOCIEDADE DE OFTALMOLOGIA E OTORRINOLARINGOLOGIA
DO RIO GRANDE DO SUL
President: Dr. Paulo Fernando Esteves
Secretary: Dr. Carlos Buede, Av. Salgado F° 233, Porto Alegre, Rio Grande
Time and Place: Third Wednesday of month; Rua Uruguay, 240 — X Floor, Porto Alegre, Rio Grande do Sul

LATIN SOCIETY OF OPHTHALMOLOGY
President: Prof. Paul Bailliart
Secretary-General: Prof. Jules Francois, 15 place de Smet de Naeyer, Gand, Belgium

Canada

CANADIAN MEDICAL ASSOCIATION, SECTION OF OPHTHALMOLOGY
Chairman: Dr. Edward F. Foy
Secretary: Dr. Robert W. Robertson, 305 Northgate Bldg., Edmonton, Alta.

CANADIAN OPHTHALMOLOGICAL SOCIETY
President: Dr. J. V. V. Nicholls
Secretary: Dr. R. G. C. Kelly, 90 St. Clair Ave. West, Toronto 7, Ont.
Time and Place: 1958; Halifax, Nova Scotia

CANADIAN OTOLARYNGOLOGICAL SOCIETY
President: Dr. Robert T. Hayes
Secretary: Dr. Donald M. MacRae, 324 Spring Garden Rd., Halifax, Nova Scotia
Time and Place: June 9-11, 1958; Nova Scotian Hotel, Halifax

MONTREAL OPHTHALMOLOGICAL SOCIETY
President: Dr. Roland Viger
Secretary: Dr. G. Cousineau, 300 St. Louis Square, Montreal
Time and Place: February 13, 1958, Montreal General Hospital; April 10, 1958, Hotel Dieu Hospital

NOVA SCOTIA SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. A. E. Doull
Secretary: Dr. C. F. Keays, 324 Spring Garden Rd., Halifax

OPHTHALMOLOGICAL AND OTOLARYNGOLOGICAL SOCIETY OF ALBERTA
President: Dr. M. S. Miller
Secretary: Dr. M. R. Marshall, University Hospital, Edmonton, Alta.
Time and Place: April 26-27, 1958; Calgary, Alta.

THE ROYAL COLLEGE OF PHYSICIANS AND SURGEONS OF CANADA
President: Dr. Robert M. Janes
Honorary Secretary: Dr. James H. Graham, 150 Metcalfe St., Ottawa 4, Ont.

TORONTO ACADEMY OF MEDICINE, SECTION OF OPHTHALMOLOGY
Chairman: Dr. J. Lloyd Burns
Secretary: Dr. J. S. Crawford, Medical Arts Bldg., Toronto, Ont.
Time and Place: Each meeting by separate arrangement at Academy of Medicine

Chile

SOCIEDAD CHILENA DE OFTALMOLOGIA
President: Dr. Abraham S. Scwietzer
Secretary: Dr. Raul E. Valenzuela, Agustinas 715, of. 104, Santiago
Time and Place: IV Jorandes Nacionales de Oftalmologia, November 1958; Santiago

Colombia

SOCIEDAD COLOMBIANA DE OFTALMOLOGIA Y OTORRINOLARINGOLOGIA
President: Dr. Francisco Vernaza
Secretary: Dr. Felix E. Lozano, Apartado Aereo 56-01, Bogota, D.E., Colombia

Cuba

SOCIEDAD CUBANA DE OFTALMOLOGIA
President: Dr. Rafael Labrador Fuiz
Secretary: Dr. Guillermo De La Torre, Calle G, No. 506, Vedado, Havana
Time and Place: First Thursday bimonthly; Malecon 61, Bajos, Havana

Denmark

OPHTHALMOLOGICAL SOCIETY IN COPENHAGEN, DENMARK
President: Dr. Børge Lawatz
Secretary: Dr. Jens Edmund, University Eye Clinic, Copenhagen

Egypt

OPHTHALMOLOGICAL SOCIETY OF EGYPT
President: Dr. Mohammad Abd El Monim Labib
Secretary: Dr. Sabri Kamel, 44 Al Gumhuriat St., Cairo
Time and Place: March 1958; Memorial Institution of Ophthalmic Research, Giza

France

SOCIETE FRANCAISE D'OPHTALMOLOGIE
President: Prof. Guy Offret
Secretary: Dr. Gabriel Lombard, Hospital Cochin-Pavillon Sicard-27, rue du Fg St. Jacques, Paris
Time and Place: Maison de la Chimie 28 bis, rue St. Dominique, Paris

Germany

GERMAN OPHTHALMOLOGICAL SOCIETY
(UNITED CONGRESS)
President: Prof. Dr. von Hofe
Secretary: Prof. Dr. E. Engelking, Univ.-Augenklinik, Heidelberg
Time and Place: October 1959; Heidelberg

DEUTSCHE OPHTHALMOLOGISCHE GESELLSCHAFT HEIDELBERG
President: Prof. Dr. von Hofe
Secretary: Prof. Dr. von Hofe, Köln, Lindenburg, Heidelberg
Place: Heidelberg

Great Britain

BRITISH ASSOCIATION OF OTOLARYNGOLOGISTS
President: Mr. C. Gill-Carey
Secretary: Mr. Myles L. Formby, 45 Lincoln's Inn Fields, London W.C.2

FACULTY OF OPHTHALMOLOGISTS
President: Mr. L. H. Savin, M.D., M.S., M.R.C.P., F.R.C.S.
Secretary: Mr. E. F. King, F.R.C.S., D.O.M.S., 45 Lincoln's Inn Fields, London W.C.2

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM
President: Mr. J. J. Healy, M.B., Ch.B.
Secretaries: Mr. J. R. Hudson, M.B., F.R.C.S.; Mr. K. C. Wybar, M.D., Ch.M., F.R.C.S., D.O.M.S., 45 Lincoln's Inn Fields, London, W.C.2
Time and Place: April 17-19, 1958; Cardiff, Wales

ROYAL SOCIETY OF MEDICINE, SECTION OF OPHTHALMOLOGY
President: Mr. J. R. Wheeler, F.R.C.S. Ed.
Honorary Secretary: Mr. D. P. Greaves, F.R.C.S., 56 Wimpole St., London, W.1
Time and Place: 4:30 p.m., second Thursday of October, November, December, February, March, May, and June; 1 Wimpole St., London, W.1

MIDLAND OPHTHALMOLOGICAL SOCIETY
President: Mr. R. D. Weeden Butler
Secretaries: Mr. M. J. Roper-Hall and Mr. W. Martin Walker, Birmingham and Midland Eye Hospital, Church St., Birmingham 3
Time and Place: October-June, according to programme director; Birmingham and Midland Eye Hospital, Church St., Birmingham 3

OXFORD OPHTHALMOLOGICAL CONGRESS
Master: Sir J. W. Tudor Thomas, F.R.C.S.
Secretary: Ian C. Fraser, F.R.C.S., 21 Dogpole, Shrewsbury, Shropshire
Time and Place: July 7-9, 1958; University Laboratory of Physiology, Oxford

SCOTTISH OPHTHALMOLOGICAL CLUB
President: Dr. John Marshall
Secretary: Dr. John D. Fraser, 31 Kingsborough Gardens, Glasgow

SOUTHERN OPHTHALMOLOGICAL SOCIETY, ENGLAND
President: E. P. Tulloh, Esq., M.B., B.S., D.O.M.S.
Secretary: Nigel Cridland, Esq., D.M., D.O., (Oxon), 25 Craneswater Park, Southsea, Hants.

India

ALL-INDIA OPHTHALMOLOGICAL SOCIETY
President: Dr. D. G. Patwardhan
Secretaries: Dr. Y. K. C. Pandit and Col. B. Basu, Bombay Mutual Bldg., Hornby Rd., Bombay 1
Time and Place: February 13-15, 1958; Indore

BOMBAY OPHTHALMOLOGISTS' ASSOCIATION
President: Dr. H. D. Patel
Secretaries: Dr. B. B. Velankar, and Dr. V. S. Talwalkar, 213 Charni Rd., Girgaum, Bombay 4
Time and Place: 7:30 p.m., third Wednesday of each month; at different hospitals

OPHTHALMOLOGICAL SOCIETY OF BENGAL
President: Capt. K. L. Sen
Secretaries: Dr. S. Bagchi and Dr. M. Sengupta, 94 Chittaranjan Ave., Calcutta 12
Place: The Eye Infirmary Medical College, Calcutta

Ireland

IRISH OPHTHALMOLOGICAL SOCIETY
President: Dr. A. J. Mooney
Secretary: Dr. T. F. Roche, 25 Fitzwilliam Place, Dublin
Time: May 1-3, 1958

The Netherlands

NEDERLANDSCH OOGHEELKUNDIG GEZELSCHAP
(THE NETHERLANDS OPHTHALMOLOGICAL SOCIETY)
President: Prof. Dr. M. C. Colenbrander
Secretary: Dr. P. G. Binkhorst, Sweelinckiaan 20, Bilthoven
Time and Place: December 13-14, 1958; Ophthalmological Clinic of the Wilhelminagasthuis, Amsterdam

New Zealand

OPHTHALMOLOGICAL SOCIETY OF NEW ZEALAND
President: Dr. D. MacDiarmid
Secretary: Dr. C. C. Ring, 1A Alfred St., Auckland, C. 1
Time and Place: October; Auckland

Norway

NORSKE OYELEGERS FORENING
(SOCIETY OF NORWEGIAN OPHTHALMOLOGISTS)
President: Dr. Einar Trumpy
Secretary: Dr. med. Hans P. Petersen, Rikshopitalets Øyeavdeling, Oslo
Time and Place: Twice yearly; Rikshopitalets Øyeavdeling, Oslo

Paraguay

SOCIETY OF OPHTHALMOLOGY OF PARAGUAY
President: Dr. Alfredo Ayala Haedo
Secretary: Maria O. de Fresco, Calle Extados Unidos 590, Asunción, Paraguay
Time and Place: Monthly; Circulo Paraguayo de Médicos

Portugal

SOCIEDADE PORTUGUSEA DE OTORRINOLARINGOLOGIA E DE BRONCO-ESOFAGOLOGIA
President: Dr. Alberto Luís de Mendonca
Secretaries: Dr. Antonio da Costa Quinta and Dr. Albano Coelho, Avenida da Liberdade, 65, Lisbon 1

Union of South Africa

OPHTHALMOLOGICAL SOCIETY OF SOUTH AFRICA
President: Dr. R. L. H. Townsend
Secretary: Dr. J. Guilliaume Louw, 17 Church Square, Cape Town
Time and Place: September 1958; Cape Town

Spain

SOCIEDAD OFTALMOLOGICA HISPANO-AMERICANA
President: Prof. Dr. José Pérez-Llorca
Secretary: Dr. Carlos Costi García de Tunón, Montalban, 7, Madrid

Sweden

SVENSKA OGONLAKAREFORENINGEN, SVENSKA LAKARESALLSKAPETS SEKTION FOR OFTALMOLOGI
President: Prof. G. v. Bahr
Secretary: Dr. K. O. Granström, Södermalmstorg 4, Stockholm Sö.
Time and Place: June 7-8, 1958; Stockholm

Venezuela

SOCIEDAD VENEZOLANA DE OTORRINOLARINGOLOGIA
President: Dr. Alfredo Celis Pérez
Secretary: Dr. Jesus Miralles, Local del Colegio de Médicos del Destrito Federal Avenida Bellas Artes-Urban, Los Chaguaramos, Caracas

NATIONAL

American Academy of Ophthalmology and Otolaryngology

President: Dr. LeRoy A. Schall
Executive Secretary-Treasurer: Dr. William L. Benedict, 15 Second St. S.W., Rochester, Minn.
Time and Place: October 12-17, 1958; Palmer House, Chicago

American Broncho-Esophagological Association

President: Dr. Walter Hoover
Secretary: Dr. F. Johnson Putney, 1719 Rittenhouse Sq., Philadelphia 3
Time and Place: Afternoons only, May 21-23, 1958; Mark Hopkins Hotel, San Francisco

American Laryngological Association

President: Dr. Harry P. Schenck
Secretary: Dr. James H. Maxwell, Out-Patient Clinic Bldg., University Hospital, Ann. Arbor, Mich.
Time and Place: May 19 and 20, 1958; Fairmont Hotel, San Francisco

American Laryngological, Rhinological and Otological Society, Inc.

President: Dr. Lawrence R. Boies
Secretary: Dr. C. Stewart Nash, 708 Medical Arts Bldg., Rochester 7, N. Y.

Eastern Section

Vice-President: Dr. Chevalier L. Jackson
Secretary: Dr. F. Johnson Putney, 1719 Rittenhouse Sq., Philadelphia 3
Place: Philadelphia

Middle Section

Vice-President: Dr. Francis L. Lederer
Secretary: Dr. Marlow W. Manion, 601 Hume Mansur Bldg., Indianapolis 4, Ind.
Time and Place: January 13 and 14, 1958; Chicago

Southern Section

Vice-President: Dr. Sam H. Sanders
Secretary: Dr. James A. Harrill, Wake Forest College, Winston-Salem, N. C.
Time: November 11, 1958

Western Section

Vice-President: Dr. Ben R. Dysart
Secretary: Dr. Francis A. Sooy, 490 Post St., San Francisco
Time and Place: January 18 and morning of January 19, 1958; Beverly Hilton Hotel, Beverly Hills, Calif.

American Medical Association, Section on Ophthalmology

Chairman: Dr. Dohrmann K. Pischell
Secretary: Dr. Harold G. Scheie, 313 S. 17th St., Philadelphia 3
Time and Place: June 23-27, 1958; New York

American Medical Association, Section on Otolaryngology

Chairman: Dr. Alden Miller
Secretary: Dr. Hugh A. Kuhn, 112 Rimbach St., Hammond, Ind.
Time and Place: June 23-27, 1958; San Francisco

American Ophthalmological Society

President: Dr. Walter S. Atkinson
Secretary-Treasurer: Dr. Maynard C. Wheeler, 30 W. 59th St., New York 19

American Otological Society, Inc.

President: Dr. Dean M. Lierle
Secretary-Treasurer: Dr. Lawrence R. Boies, University Hospital, Minneapolis 14
Time and Place: May 17 and 18, 1958; Fairmont Hotel, San Francisco

American Otorhinologic Society for Plastic Surgery

President: Dr. Armand Caron
Secretary: Dr. Louis Joel Feit, 66 Park Ave., New York 16
Time and Place: April 26, 1958; Waldorf-Astoria Hotel, New York City

American Society of Facial Plastic Surgery

President: Dr. Irvin J. Fine
Secretary: Dr. Samuel M. Bloom, 123 E. 83rd St., New York City 28
Time and Place: March 10 and 11, 1958; Columbus, Ohio

American Society of Ophthalmologic and Otolaryngologic Allergy

President: Dr. Joseph W. Hampsey
Secretary: Dr. Daniel S. DeStio, 121 S. Highland Ave., Pittsburgh 6
Time and Place: October 16 and 17, 1958; Palmer House, Chicago

Association for Research in Ophthalmology, Inc.

Chairman: Dr. Michael J. Hogan
Secretary-Treasurer: Dr. Lorand V. Johnson, 10515 Carnegie Ave., Cleveland 6
Time and Place: June 1958; San Francisco

National Society for the Prevention of Blindness

President: Mr. Mason H. Bigelow
Executive Director: Dr. Franklin M. Foote, 1790 Broadway, New York 19
Time and Place: March 12-14, 1958; Bellevue-Stratford Hotel, Philadelphia

Otosclerosis Study Group

President: Dr. Joseph A. Sullivan
Secretary-Treasurer: Dr. Arthur L. Juers, 611 Brown Bldg., Louisville, Ky.

Puerto Rico Medical Association
(Section on Ophthalmology and Otolaryngology)

President: Dr. Antonio Rullán
Secretary for Ophthalmology: Dr. Carlos J. Margarida, Box 9111, Santurce
Secretary for Otolaryngology: Dr. Lorenzo Arsuaga, Box 9111, Santurce

Puerto Rico Medical Ophthalmological Association

President: Dr. Luis J. Fernández
Secretary-Treasurer: Dr. Guillermo Picó, 654 Ponce de León Ave., Santurce

SOCIETY OF MILITARY OPHTHALMOLOGISTS
President: Capt. Stephen J. Ryan, (MC, USN)
Secretary: Lt. Col. Raymond A. Skeehan, Jr., (MC, USN); Armed Forces Institute of Pathology, NRAMC, Washington 25, D. C.

SOCIETY OF MILITARY OTOLARYNGOLOGISTS
President: Capt. William C. Livingood
Secretary-Treasurer: Lt. Col. Stanley H. Bear, MC, 3810th USAF Hospital, Maxwell AFB, Alabama

REGIONAL

ARK-LA-TEX OTO-OPHTHALMIC SOCIETY
President: Dr. Ray Carter
Secretary: Dr. Paul Swearingen, Garrett Bldg., Shreveport, La.
Time and Place: First Monday of each month; Confederate Memorial Hospital, Shreveport

HAWAII EYE, EAR, NOSE AND THROAT SOCIETY
President: Dr. Robert H. Lee
Secretary: Dr. Howard H. Honda, 1481 S. King St., Honolulu
Time and Place: 6:30 p.m., third Thursday of each month except July, August, and September; Honolulu

INTER-MOUNTAIN OTO-OPHTHALMOLOGICAL SOCIETY
President: Dr. Alan Crandall
Secretary: Dr. Whitney J. Haight, 909 Boston Bldg., 9 Exchange Pl., Salt Lake City 1, Utah
Time and Place: Third Monday of each month; University Club, Salt Lake City

LOUISIANA-MISSISSIPPI OPHTHALMOLOGICAL AND OTOLARYNGOLOGICAL SOCIETY
President: Dr. A. J. McComiskey
Secretary-Treasurer: Dr. Edley H. Jones, 1301 Washington St., Vicksburg, Miss.
Time and Place: April 11 and 12, 1958; Edgewater Gulf Hotel, Edgewater Park, Miss.

NEW ENGLAND OPHTHALMOLOGICAL SOCIETY
President: Dr. Virgil G. Casten
Secretary: Dr. Edwin B. Goodall, 328 Washington St., Wellesley Hills 82, Mass.
Time and Place: Third Wednesday of each month, November-April; Massachusetts Eye and Ear Infirmary, 243 Charles St., Boston

NEW ENGLAND OTO-LARYNGOLOGICAL SOCIETY
President: Dr. Raymond H. Marcotte
Secretary: Dr. Burton E. Lovesey, 15 West Central St., Natick, Mass.
Time and Place: Three times a year, Massachusetts General Hospital

PACIFIC COAST OTO-OPHTHALMOLOGICAL SOCIETY
President: Dr. Howard P. House
Secretary: Dr. Homer E. Smith, 686 Twelfth Ave., Salt Lake City 3, Utah
Time and Place: May 11-16, 1958; Vancouver, B. C.

SIOUX VALLEY ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. Martin Ryan
Secretary: Dr. Sidney F. Becker, B-1600 S. Western Ave., Sioux Falls, S. D.
Time and Place: February 1958; Sioux Falls

SOUTHERN MEDICAL ASSOCIATION, SECTION ON OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. V. Eugene Holcombe
Secretary: Dr. Mercer G. Lynch, Ochsner Clinic, New Orleans 15
Time and Place: November 1958; New Orleans

WISCONSIN-UPPER MICHIGAN SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. R. D. DeCock
Secretary: Dr. G. L. McCormick, 650 S. Central Ave., Marshfield, Wis.
Time and Place: May 1958; Madison, Wis.

STATE AND LOCAL

Alabama

ALABAMA ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. Thomas O. Paul
Secretary: Dr. Eugene Callaway, Jr., P.O. Box 726, Selma
Time and Place: January 30 and 31, 1958; Grand Hotel, Point Clear

THE BIRMINGHAM EYE, EAR, NOSE AND THROAT SOCIETY
President: Members in rotation
Secretary: Dr. Joseph M. Dixon, 2156 Highland Ave., Birmingham 5
Time and Place: Monthly by announcement; The Club, Birmingham

Arkansas

ARKANSAS MEDICAL SOCIETY, EYE, EAR, NOSE AND THROAT SECTION
President: Dr. Max Baldridge
Secretary: Dr. James L. Smith, 623 Woodlane, Little Rock
Time and Place: April 1958; Little Rock

Arizona

PHOENIX OPHTHALMOLOGICAL SOCIETY
President: Dr. Robert Lorenzen
Secretary-Treasurer: Dr. Sheldon Zinn, 722 Professional Bldg., Phoenix
Time and Place: Second Thursday of November, January, March, May, and September

California

CALIFORNIA MEDICAL ASSOCIATION, EYE SECTION
President: Dr. Harold B. Alexander
Secretary: Dr. O. Ralph Tanner, 300 Homer Ave., Palo Alto
Time and Place: April 27, 1958; Los Angeles

ALTA CALIFORNIA OPHTHALMOLOGICAL SOCIETY
President: Dr. Rulon S. Tillotson
Secretary: Dr. Robert L. Alexander, 1127 Eleventh St., Sacramento
Time and Place: Third Thursday of every month except June, July, and August; Sutter Club, Sacramento

EAST BAY OPHTHALMOLOGICAL SOCIETY
President: Dr. Homer Howells
Secretary: Dr. Owen C. Dickson, 2320 Channing Way, Berkeley
Time and Place: Quarterly; various places

LOS ANGELES OPHTHALMOLOGICAL JOURNAL CLUB
President: Dr. Arthur S. Gray
Secretary: Dr. C. J. Aucreman, 301 N. Prairie Ave., Inglewood
Time and Place: 8:00 p.m., second Monday of each month; Los Angeles County Medical Association Bldg., 1925 Wilshire Blvd., Los Angeles 54

LOS ANGELES SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. Sol Rome
Secretary: Dr. Max Pohlman, 2200 W. Third St., Los Angeles 57
Time and Place: 6:00 p.m., fourth Thursday of each month, Otolaryngology; 6:00 p.m., first Monday of each month, Ophthalmology; Los Angeles County Medical Assn. Bldg., 1925 Wilshire Blvd.

PENINSULA EYE SOCIETY
President: Dr. Howard Trolan
Secretary: Dr. William J. Hornyak, 1303 San Carlos Ave., San Carlos
Time: Third Thursday of every month, except July, August, and December

SAN DIEGO OPHTHALMOLOGICAL SOCIETY
President: Dr. George E. Zukovich
Secretary: Dr. A. B. Root, 3315 Fourth Ave., San Diego 3
Time and Place: 6:30 p.m., second Monday of each month; University Club, San Diego

SAN FRANCISCO MEDICAL SOCIETY, EYE SECTION
President and Secretary: Dr. Margaret Henry, 384 Post St., San Francisco 8
Place: Headquarters, San Francisco Medical Society Bldg., 250 Masonic Ave., San Francisco 18

SAN FRANCISCO OPHTHALMOLOGICAL ROUND TABLE
President: Dr. George S. Campion
Secretary-Treasurer: Dr. Albert J. Brinckerhoff, 490 Post St., San Francisco
Time and Place: Three times a year; San Francisco

SANTA BARBARA OPHTHALMOLOGICAL SOCIETY
President: Dr. Michel Loutfallah
Secretary: Dr. Paul M. Brickley, 317 W. Pueblo St., Santa Barbara
Time and Place: Third Thursday evening of every month; different locations

TRI-COUNTY SOCIETY OF OPHTHALMOLOGY
President: Dr. Everett Olenick
Secretary: Dr. Vean M. Stone, Mission Inn Rotunda, Riverside, Calif.
Time and Place: Four times during the Winter season at various places

Colorado

COLORADO OPHTHALMOLOGICAL SOCIETY
President: Dr. James P. Rigg
Secretary: Dr. Max Kaplan, Republic Bldg., Denver
Time and Place: Third Saturday of each month, September-May; University of Colorado Medical Center

COLORADO OTOLARYNGOLOGICAL SOCIETY
President: Dr. Merrill O. Dart
Secretary: Dr. Carl W. Whistler, 701 Birch, Denver 20
Time and Place: First Saturday of each month; Colorado General Hospital

Connecticut

CONNECTICUT STATE MEDICAL SOCIETY, EYE, EAR, NOSE AND THROAT SOCIETY
President: Dr. Morton Arnold
Secretary: Dr. John P. Simses, 144 Golden Hill St., Bridgeport
Time: April and October, 1958

Florida

FLORIDA SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. Carl S. McLemore
Secretary: Dr. Joseph Taylor, Jr., Citizens Bldg., Tampa
Time and Place: In conjunction with the Florida Medical Association Annual Meeting

GREATER MIAMI EYE, EAR, NOSE AND THROAT SOCIETY
President: Dr. William B. Steinman
Secretary-Treasurer: Dr. H. Carlton Howard, Miami
Time and Place: 6:30 p.m., second Thursday of March, May, October, and December; Urmey Hotel Miami

Georgia

GEORGIA SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. F. Phinizy Calhoun, Jr.
Secretary: Dr. Walter P. Rhyne, Box 206, Albany
Time and Place: March 7 and 8, 1958; Savannah

ATLANTA EYE, EAR, NOSE AND THROAT SOCIETY
President: Dr. Nathan Gershon
Secretary-Treasurer: Dr. J. Jack Stokes, 512 Medical Arts Bldg., 384 Peachtree St., N.E., Atlanta
Time and Place: Fourth Monday of each month, Fulton County Academy of Medicine, Atlanta

Illinois

CENTRAL ILLINOIS SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. Edward C. Albers
Secretary: Dr. Clarence A. Fleischli, 520 E. Allen St., Springfield

CHICAGO LARYNGOLOGICAL AND OTOLOGICAL SOCIETY
President: Dr. Stanton A. Friedberg
Secretary: Dr. Fletcher Austin, 700 N. Michigan, Chicago
Time and Place: First Monday of each month; Furniture Club of America, 666 Lake Shore Drive, Chicago

CHICAGO OPHTHALMOLOGICAL SOCIETY
President: Dr. Frank W. Newell
Secretary-Treasurer: Dr. Joseph S. Haas, 111 N. Wabash Ave., Chicago 2
Time and Place: 7:30 p.m., third Monday of each month, October-May; Chicago-Illini Union, 715 S. Wood St.

Indiana

INDIANA ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. Richard P. Good
Secretary: Dr. John J. Flick, 1443 N. Pennsylvania St., Indianapolis
Time: Annually in May

INDIANAPOLIS OPHTHALMOLOGICAL AND OTOLARYNGOLOGICAL SOCIETY
President: Dr. Ralph J. McQuiston
Secretary: Dr. M. Richard Harding, 308 Hume Mansur Bldg., Indianapolis
Time and Place: 6:30 p.m., second Thursday of each month; Indianapolis Athletic Club

Iowa

IOWA ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. Joseph E. Dvorak
Secretary: Dr. Arthur C. Wise, 212 Savings and Loan Bldg., Iowa City
Time and Place: September 11, 1958; Curt Yocum's Restaurant

DES MOINES ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. Robert P. Updegraff
Secretary: Dr. J. H. McNamee, 306 Equitable Bldg., Des Moines
Time and Place: Fourth Monday of each month; Des Moines Club

Kansas

KANSAS STATE MEDICAL SOCIETY, SECTION ON OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. Max S. Lake
Secretary: Dr. Glen Floyd, Snyder Clinic, Winfield
Time and Place: May 1958; Kansas City

Kentucky

LOUISVILLE EYE AND EAR SOCIETY
President: Dr. Charles L. Bloch
Secretary: Dr. George I. Uhde, 610-613 Brown Bldg., Louisville 2

Louisiana

NEW ORLEANS GRADUATE MEDICAL ASSEMBLY
President: Dr. Charles L. Brown
Secretary: Dr. Maurice E. St. Martin, 1430 Tulane Ave., New Orleans 12
Time and Place: March 3-6, 1958; Roosevelt Hotel, New Orleans

Maryland

MARYLAND SOCIETY FOR THE PREVENTION OF BLINDNESS
President: Dr. Frederic M. Reese
Secretary: Charles G. Page, 714 Park Ave., Baltimore 1

BALTIMORE CITY MEDICAL SOCIETY, OPHTHALMOLOGICAL SECTION
President: Dr. William G. Marr
Secretary: Dr. Howard Naquin, 14 W. Mt. Vernon Pl.
Place: Johns Hopkins Club, Johns Hopkins Campus

BALTIMORE EAR, NOSE AND THROAT SOCIETY
President: Dr. Alvin P. Wenger
Secretary: Dr. Jerome Snyder, 11 E. Chase St., Baltimore 2
Time and Place: 1958; Johns Hopkins Club, Homewood

Massachusetts

MASSACHUSETTS MEDICAL SOCIETY, SECTION OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
Chairman: Dr. Arthur J. Gorney
Secretary: Dr. John E. McKeigue, 94 Pleasant St., Arlington
Time and Place: May 1958; Boston

BOSTON CITY HOSPITAL AURAL AND OPHTHALMIC SOCIETY
President: Dr. Thomas P. White
Secretary: Dr. Anthony Alba, 199 Bay State Rd., Boston
Time: May 1958

Michigan

MICHIGAN STATE MEDICAL SOCIETY, SECTION OF OPHTHALMOLOGY
President: Dr. Henry A. Dunlap
Secretary: Dr. Fleming Barbour, Mott Foundation Bldg., Flint 3

MICHIGAN STATE MEDICAL SOCIETY, SECTION OF OTOLARYNGOLOGY
President: Dr. James Coyle
Secretary: Dr. Harold Schuknecht, Henry Ford Hospital, Detroit 2
Time and Place: September 1958; Detroit

MICHIGAN TRIOLOGICAL SOCIETY
President: Dr. Max Finton
Secretary: Dr. Carl Gardner, 1410 American National Bank Bldg., Kalamazoo
Time and Place: March, June, September, and November; various places

DETROIT OPHTHALMOLOGICAL CLUB
Secretary: Dr. John W. Henderson, Room 6155 Out Patient Bldg., University Hospital, Ann Arbor
Time and Place: Second Monday evening in November, December, February, and March; Wayne County Medical Society. Joint meeting with Detroit Ophthalmological Society in January

DETROIT OPHTHALMOLOGICAL SOCIETY
President: Dr. Harold F. Falls
Secretary: Dr. James Olson, 1005 Mutual Bldg., 28 W. Adams, Detroit
Time and Place: 8:00 p.m., fourth Thursday of each month; The Harmonie Club, 267 E. Grand River

DETROIT OTOLARYNGOLOGICAL SOCIETY
President: Dr. James E. Coyle
Secretary-Treasurer: Dr. Donald S. Bolstad, 2799 W. Grand Blvd., Detroit 2
Time and Place: 6:30 p.m., third Wednesday of each month

SAGINAW VALLEY ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. Walter Rundles, Jr.
Secretary: Dr. Arno W. Weiss, 3521 State St., Saginaw
Time and Place: First Tuesday of each month; Bancroft Hotel, Saginaw

Minnesota

MINNESOTA ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. Kinsey Simonton
Secretary: Dr. Malcolm A. McCannel, 325 Doctors Bldg., Minneapolis 2
Time and Place: 6:30 p.m., second Friday of each month, October-May; Alternating between the Minnesota Club, St. Paul and the Minneapolis Club, Minneapolis

Missouri

KANSAS CITY SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. Clarence Steele
Secretary: Dr. J. T. Robison, 4620 J. C. Nichols Parkway, Kansas City
Time: Third Thursday of each month, November-May

EAR, NOSE, AND THROAT CLUB OF ST. LOUIS
President: Dr. Ben H. Senturia
Secretary: Dr. Daniel D. Klaff, 3720 Washington Blvd., St. Louis
Time and Place: Third Wednesday of January, March, May, and November; University Club

ST. LOUIS OPHTHALMOLOGICAL SOCIETY
President: Dr. Ben Milder
Secretary: Dr. Lawrence T. Post, Jr., 100 N. Euclid, St. Louis 8
Time and Place: 5:30 p.m., fourth Thursday, October-April; Park Plaza Hotel, 220 N. Kingshighway

Montana

MONTANA ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. Robert M. Morgan
Secretary: Dr. James D. Morrison, P.O. Box 1856, 1241 N. Broadway, Billings

Nebraska

NEBRASKA ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. John C. Peterson
Secretary-Treasurer: Dr. Paul L. Peterson, 702 Sharp Bldg., Lincoln

OMAHA EYE, EAR, NOSE AND THROAT SOCIETY
President: Dr. Frank Eagle
Secretary: Dr. John Filkins, 521 The Doctors Bldg., Omaha
Time and Place: 6:30 p.m., third Wednesday of each month, Omaha Club, 20th & Douglas St., Omaha

New Jersey

ACADEMY OF MEDICINE OF NEW JERSEY, EYE, EAR, NOSE AND THROAT SECTION
Chairman: Dr. Elliot Rinzler
Secretary: Dr. Francis Christoph, 811 Chestnut St., Union

MEDICAL SOCIETY OF NEW JERSEY, SECTION ON OPHTHALMOLOGY
President: Dr. Samuel M. Diskan
Secretary: Dr. Edward A. Atwood, 500 Market St., Paterson
Time and Place: May 1958; Atlantic City

NEW JERSEY ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. J. Wallace Hurff
Secretary: Dr. John Scillieri, 660 Broadway, Paterson
Time and Place: May 14, 1958; Atlantic City

NEW JERSEY OPHTHALMOLOGICAL SOCIETY
President: Dr. Irvin Levy
Secretary: Dr. Alfonse A. Cinotti, 3285 Hudson Blvd., Jersey City
Time and Place: May 1958; Atlantic City

NEW JERSEY SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. Edgar P. Cardwell
Secretary: Dr. Albert F. Moriconi, 438 Hamilton Ave., Trenton 9

HUDSON COUNTY EYE, EAR, NOSE AND THROAT SOCIETY
President: Dr. Benjamin Jaffe
Secretary: Dr. Nathaniel J. Shapiro, 1201 Palisade Ave., Union City
Time and Place: Fourth Monday of each month; Pete and Dominic Restaurant, Jersey City

New Mexico

NEW MEXICO OPHTHALMOLOGICAL SOCIETY
President: Dr. Albert W. Egenhofer
Secretary: Dr. J. A. Dillahunt, 106 Girard Blvd. S.E., Albuquerque

New York

NEW YORK ACADEMY OF MEDICINE, SECTION ON OPHTHALMOLOGY
President: Dr. Arthur G. DeVoe
Secretary: Dr. Hunter H. Romaine, 111 E. 65th St., New York 21
Time and Place: 8:15 p.m., third Monday of each month, September-May; New York Academy of Medicine, 103rd and 5th Ave., New York City

NEW YORK ACADEMY OF MEDICINE, SECTION ON OTOLARYNGOLOGY
Chairman: Dr. Richard J. Bellucci
Secretary: Dr. Joseph L. Goldman, 1050 Park Ave., New York 28
Time and Place: Third Wednesday of each month; New York Academy of Medicine

NEW YORK SOCIETY FOR CLINICAL OPHTHALMOLOGY
President: Dr. Harvey E. Thorpe
Secretary: Dr. Leon H. Ehrlich, 211 Central Park West, New York 24
Time and Place: 8:00 p.m., first Monday of the month; New York Academy of Medicine, 2 E. 103rd St.

CENTRAL NEW YORK EYE, EAR, NOSE AND THROAT SOCIETY
President: Dr. Charles A. Prudhon
Secretary: Dr. O. W. Oberlander, Jr., 301 State Tower Bldg., Syracuse
Time and Place: February, May, August, and November; The University Club, Syracuse

EASTERN NEW YORK EYE, EAR, NOSE AND THROAT SOCIETY
President: Dr. J. Harry Fierman
Secretary-Treasurer: Dr. Frank C. Furlong, 713 Union St., Schenectady
Time and Place: 7:00 p.m., first Thursday, November-April; alternating at Albany, Troy, and Schenectady

MEDICAL SOCIETY OF THE STATE OF NEW YORK, OTOLARYNGOLOGY SECTION
Chairman: Dr. Samuel F. Kelley
Secretary: Dr. Daniel C. Baker, Jr., 903 Park Ave., New York 21
Time and Place: May 1958; New York City

ALUMNI ASSOCIATION OF THE NEW YORK EYE AND EAR INFIRMARY
President: Dr. Daryl Voorhies
Secretary: Dr. Alfonse Cinotti, 3285 Hudson Blvd., Jersey City
Time and Place: Spring 1958; New York City

BROOKLYN OPHTHALMOLOGICAL SOCIETY
President: Dr. B. M. Volk
Secretary: Dr. Frank C. Furlong, 713 Union St., Schenectady
Time and Place: Third Thursday in October, December, February, and April; Kings County Medical Society, 1313 Bedford Ave., Brooklyn

BUFFALO OPHTHALMOLOGICAL CLUB
President: Dr. Elizabeth P. Olmsted
Secretary: Dr. Harold E. Wass, 840 W. Delavan Ave., Buffalo 9

NASSAU OPHTHALMOLOGICAL SOCIETY
President: Dr. Eugene T. Buckley
Secretary-Treasurer: Dr. Arthur E. Merz, 520 Franklin Ave., Garden City, L. I.
Time and Place: Fourth Monday, February, April, September, and November; at various places

North Carolina

NORTH CAROLINA EYE, EAR, NOSE AND THROAT SOCIETY
President: Dr. Edouard Prefontaine
Secretary: Dr. George T. Noel, 204 Cabarrus Bank Bldg., Kannapolis
Time: September 1958

Ohio

AKRON ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. F. R. Souers
Secretary: Dr. D. W. Mathias, 819 First National Tower, Akron 8
Time and Place: 6:30 p.m., first Monday of October, December, February, and May; Akron City Club

CINCINNATI OPHTHALMOLOGIC CLUB
Presidium: Dr. Donald J. Lyle, Dr. Charles K. W. Ascher, Dr. Barnet R. Sakier
Secretary: Dr. Josef D. Weintraub, 715 Provident Bank Bldg., Cincinnati 2
Time and Place: 8:00 p.m., second Wednesday, November-May; Vernon Manor Hotel

CINCINNATI OTOLARYNGOLOGICAL SOCIETY
President: Dr. Samuel H. Portnoy
Secretary: Dr. Raymond L. Pfister, 2600 Union Central Bldg., Cincinnati 2
Time: 6:30 p.m., third Monday of each month

CLEVELAND OPHTHALMOLOGICAL CLUB
President: Dr. Thayer L. Parry
Secretary-Treasurer: Dr. Herman C. Weinberg, 2177 S. Taylor Rd., University Heights 18
Time and Place: Four times yearly; Wade Park Manor, 107th St. and Park Lane, Cleveland

CLEVELAND OTOLARYNGOLOGICAL CLUB
President: Dr. Harold E. Harris
Secretary-Treasurer: Dr. Thomas L. Smith, 301 Broadway Bldg., Lorain
Time and Place: 6:30 p.m., Wednesdays of each month; Wade Park Manor, 107th St. and Park Lane, Cleveland

COLUMBUS SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. Trent W. Smith
Secretary: Dr. Carl W. Roth, 22 Buttles Ave., Columbus 8
Time and Place: 7:00 p.m., first Monday of each month, October-May; University Club, Columbus

TOLEDO EYE, EAR, NOSE AND THROAT SOCIETY
President: Dr. A. James Blanchard
Secretary: Dr. Max F. Sudhoff, 3100 W. Central Ave., Toledo
Time and Place: 6:30 p.m., third Tuesday of each month; Toledo Club

Oklahoma

OKLAHOMA CITY ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. Lee K. Emenhiser
Secretary: Dr. Jack V. D. Hough, 301 N. W. 12th St., Oklahoma City
Time and Place: March 6 and 7, 1958; Main Auditorium of the University of Oklahoma Medical School

Oregon

OREGON ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. Ralph N. Westfall
Secretary: Dr. Charles W. Browning, 919 Taylor St. Bldg., Portland 5
Time and Place: Fourth Tuesday, September-May; Henry Thiele Restaurant, 23 and West Burnside, Portland

Pennsylvania

PENNSYLVANIA ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. Josiah F. Buzzard
Secretary: Dr. Daniel S. DeStio, 1006 Highland Bldg., Pittsburgh 6
Time and Place: May 22-24, 1958; Bedford Springs Hotel, Bedford

WESTERN PENNSYLVANIA EYE, EAR, NOSE AND THROAT SOCIETY
President: Dr. Charles Daugherty
Secretary-Treasurer: Dr. F. E. Murdock, 28½ W. Scribner Ave., DuBois
Time and Place: Third Thursday, April-October, V.F.W. Club; Indiana

COLLEGE OF PHYSICIANS OF PHILADELPHIA, SECTION ON OPHTHALMOLOGY
President: Dr. Isaac S. Tassman
Secretary: Dr. William E. Krewson III, 1930 Chestnut St., Philadelphia 3
Time and Place: Third Thursday of every month, October-April; College of Physicians Bldg., 19 S. 22nd St., Philadelphia 3

PHILADELPHIA COUNTY MEDICAL SOCIETY, EYE SECTION
Chairman: Dr. Robert H. Trueman
Secretary: Dr. Thomas H. Cowan, 1930 Chestnut St., Philadelphia 3
Time and Place: First Thursday, November-April, Philadelphia County Medical Society Bldg., 301 S. 21st St., Philadelphia

PHILADELPHIA LARYNGOLOGICAL SOCIETY
President: Dr. Chevalier L. Jackson
Secretary: Dr. Louis E. Silcox, 102-103 Lankenau Medical Bldg., Philadelphia 31
Time and Place: First Tuesday of each month; College of Physicians Bldg., 19 S. 22nd St., Philadelphia

PITTSBURGH OPHTHALMOLOGICAL SOCIETY
President: Dr. Robert F. Rohm
Secretary: Dr. William G. Everett, 407 Jenkins Bldg., Pittsburgh 22
Time and Place: 8:00 p.m., third Monday of each month; Mellon Institute

PITTSBURGH OTOLOGICAL SOCIETY
President: Dr. Raymond E. Jordan
Secretary: Dr. John T. Dickinson, Mercy Hospital, Pittsburgh 19
Time and Place: 6:00 p.m., monthly; Park Schenley Restaurant, Pittsburgh

READING EYE, EAR, NOSE AND THROAT SOCIETY
President: Philip R. Wiest
Secretary: Dr. James H. Parker, Jr., 238 N. 5th St.
Time and Place: Third Wednesday, September-June; Wyomissing Club, Reading

WYOMING VALLEY EYE, EAR, NOSE AND THROAT CLUB
President: Dr. W. C. Marsden
Secretary: Dr. Albert J. Abbott, 203 E. Green St., Nanticoke
Time and Place: Last Tuesday, October-April; Luzerne County Medical Society Bldg., S. Franklin St., Wilkes-Barre

South Carolina

SOUTH CAROLINA SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. James M. Timmons
Secretary-Treasurer: Dr. Roderick Macdonald, 330 E. Main St., Rock Hill
Time and Place: September 1958, (Jointly with N.C.E.E.N.T. Society)

Tennessee

TENNESSEE STATE ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. John Wilson
Secretary: Dr. Thomas Bryan, 2105 Hayes St., Nashville
Time and Place: April 21 and 22, 1958; Gatlenburg

CHATTANOOGA AND HAMILTON COUNTY EYE, EAR, NOSE AND THROAT SOCIETY
Chairman and Secretary: Dr. J. E. Johnson, 4547 Brainerd Rd., Chattanooga 4
Time and Place: 6:30 p.m., last Thursday in each month, Mountain City Club

KNOXVILLE SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. E. E. Miller
Secretary: Dr. J. Ed Campbell, Jr., 406 W. Church Ave.
Time and Place: 6:30 p.m., first Monday of each month, September-May; University of Tennessee Research Hospital

MEMPHIS SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
Chairman: Each member in alphabetical order
Secretary: Dr. Roland H. Myers, 1720 Exchange Bldg., Memphis 3
Time and Place: 8:00 p.m., first Tuesday of each month; Memphis Eye, Ear, Nose and Throat Hospital, 1060 Madison Ave.

NASHVILLE ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. G. Allen Lawrence
Secretary-Treasurer: Dr. J. Ralph Rice, 426 Bennie Dillon Bldg.
Time and Place: 6:00 p.m., third Monday of each month, October-May; James Robertson Hotel

Texas

TEXAS SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. Lyle Hooker
Secretary: Dr. Edwin G. Grafton, 8215 Westchester, Dallas 25

DALLAS ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. Hal W. Maxwell
Secretary: Dr. Thomas M. McCrary, Room 201, 3707 Gaston Ave., Dallas
Time and Place: 6:30 p.m., first Tuesday of each month; Parkland Memorial Hospital, Dallas

FORT WORTH EYE, EAR, NOSE, AND THROAT SOCIETY
President: Dr. Robert Harris
Secretary: Dr. William C. Hendrix, 800 Fifth Ave.
Time and Place: 6:00 p.m., first Friday of each month; St. Joseph Hospital

HOUSTON OPHTHALMOLOGICAL AND OTOLARYNGOLOGICAL SOCIETY
President: Dr. Ben T. Withers
Secretary: Dr. Louis Daily, 1117 Medical Arts Bldg., Houston 2
Time: Second Thursday of November, January, March, May, and June

SAN ANTONIO SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. Jack B. Lee
Secretary: Dr. J. L. Mims, Jr., 211 Medical Arts Bldg., San Antonio 5
Time and Place: Second Tuesday of each month; San Antonio Country Club

Virginia

VIRGINIA SOCIETY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. Emanuel U. Wallerstein
Secretary-Treasurer: Dr. Maynard P. Smith, 1835 Monument Ave., Richmond

RICHMOND, VIRGINIA, EYE, EAR, NOSE AND THROAT SOCIETY
President: Dr. Edmund M. LaPrade
Secretary: Dr. Charles N. Romaine, IV, 1001 W. Franklin St., Richmond 20
Time and Place: Second Tuesday of January, first Tuesday of March, May, and October; Commonwealth Club

TIDEWATER OPHTHALMOLOGICAL AND OTOLARYNGOLOGICAL SOCIETY
President: Dr. John Sellers
Secretary: Dr. J. A. Klotz, 905 Wainwright Bldg., Norfolk, Va.
Time: October, February, and May

Washington

WASHINGTON STATE MEDICAL ASSOCIATION, SECTION ON EYE, EAR, NOSE AND THROAT
President: Dr. Charles Gates
Secretary: Dr. Fuller Hogsett, 326 Medical Center Bldg., Spokane
Time and Place: September 17, 1958; Seattle

PUGET SOUND ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. E. DeMar Anderson
Secretary: Dr. Willard F. Goff, 1215 Fourth Ave., Seattle 1
Time and Place: Third Tuesday of February, March, April, May, October, and November; usually in Seattle

SPOKANE ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. William C. Richter
Secretary: Dr. Harold W. Beaty, 955 Paulsen Medical and Dental Bldg.
Time and Place: 8:00 p.m., fourth Tuesday of each month; Blood Bank Conference Room, Fifth and Washington Sts.

Washington, D. C.

SECTION ON OPHTHALMOLOGY OF THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA
President: Dr. M. Noel Stow
Secretary-Treasurer: Dr. Walter J. Romejko, 1801 K St. N.W.
Time: Quarterly

SECTION ON OTOLARYNGOLOGY OF THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA
President: Dr. Russel S. Page, Jr.
Secretary: Dr. Edward M. O'Brien, 1835 Eye St. N.W.
Time and Place: Second Tuesday of every other month, September-May; Army-Navy Club

West Virginia

WEST VIRGINIA ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY
President: Dr. W. F. Shirkey
Secretary-Treasurer: Dr. William K. Marple, 400 First Huntington and National Bank Bldg., Huntington
Time and Place: May 1958; The Greenbrier, White Sulphur Springs, W. Va.

Wisconsin

MADISON, WISCONSIN EYE, EAR, NOSE AND THROAT SOCIETY
President: Dr. James F. Land
Secretary: Dr. Matthew D. Davis, 224 W. Washington Ave., Madison 3
Time and Place: 6:15 p.m., first Tuesday of each month at designated restaurant

MILWAUKEE OTO-OPHTHALMIC SOCIETY
President: Dr. E. Franklin Carl
Secretary: Dr. Lee G. Eby, 324 E. Wisconsin Ave., Milwaukee 3
Time and Place: 6:30 p.m., fourth Tuesday of each month; University Club

XVIII INTERNATIONAL CONGRESS OF OPHTHALMOLOGY

TWA Announces Tours to Europe for the American Academy of Ophthalmology and Otolaryngology

Through the cooperation of TWA and Dr. W. L. Benedict, Executive Secretary of the American Academy of Ophthalmology and Otolaryngology, several European tours have been set up. Major cities in Western Europe, including Brussels, where the XVIII International Congress of Ophthalmology will take place September 8 through 12, are included in the tours.

These tours are designed with first-class hotel accommodations including meals, and TWA has been assured of sufficient hotel space to accommodate all, even in Brussels, where in addition to this convention the World's Fair is in progress. Then, of course, there is the Lourdes Centennial being celebrated this year, which will draw thousands of air travelers to Europe also.

TWA has informed us that it is not necessary for you to follow these tours as outlined. If you desire any alternate type of accommodations, TWA will be very happy to revise the tour to fit your needs. TWA also has informed us that in order for them to hold first-class hotel accommodations in Brussels it is necessary that each doctor who plans to attend this convention contact TWA at 634 Marquette Avenue, Minneapolis, immediately, as the hotels in Brussels will not hold the rooms without commitments on the part of the travelers.

TWA has a beautiful brochure listing six tours. If, by any chance, you have not received a copy of this tour folder, please write TWA in Minneapolis.*

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*Inadvertently the first printing of these brochures listed the meetings in Brussels September 8-12 as *Academy of Ophthalmology & Otolaryngology Congress meetings.* It should have read *XVIII International Congress of Ophthalmology.*